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Using methods developed in transformational generative grammar, three types of nominal constructions in Spanish are treated in this paper: Fact nominalizations ("[El] Escribir es agradable"), Manner nominalizations ("El tocar [de la mujer] es agradable"), and Abstract noun nominalizations ("La construccion rapida de esta escuela es dudosa"). While this study is intended primarily as a contribution to the grammar of Spanish, the rules which have been proposed for similar constructions in English are also examined. In some cases, changes are suggested for the English rules when facts about Spanish nominalizations seem revealing for English as well. (Author/JD)

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NOMINALIZATIONS IN SPANISH

by Julia Sableski Falk

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JULIA SABLESKI FALK

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PRELIMINARY OBSERVATIONS

At the present stage of development of transformational linguistics, any linguist working within the framework elaborated by Noan Chomsky (1965) must concern himself with two goals. On the one hand, there is the task of developing a general linguistic theory. This involves a search for linguistic universals, both formal and substantive.[1] On the other hand, the linguist seeks to make a contribution to the grammar of some particular language.

It is generally the case that published research emphasizes one of these goals, but even a cursory survey demonstrates that the two are mutually dependent. Thus, while Chomsky (1965) and Katz and Postal (1964) are primarily concerned with the task of developing a theory of language, both have made important contributions to the grammar of English. As their titles imply, The Grammar of English Nominalizations by Lees (1966) and Indirect Object Constructions in English and the Ordering of Transformations by Fillmore (1965) concentrate on constructing rules for the grammar of English, yet both works, and especially the former, contain theoretical material as well.

This interdependence of the search for linguistic universals and the formulation of specific linguistic descriptions is characterized by Katz (1966, pp. 108-9) as follows:

> Given a set of empirically adequate linguistic descriptions, the linguist can abstract their common features and so generalize from them to a theory of linguistic structure in general. In this way, he asserts generalizations expressing linguistic universals that are inductively extrapolated from known regularities represented in the given set of already constructed linguistic descriptions. Alternatively, given a theory of language, a linguist can facilitate the construction of linguistic descriptions by using this model to provide a pattern on which to organize the facts about the language uncovered in field work. Similarly, the justification of the theory of language and particular linguistic descriptions are interdependent. The theory of language is empirically tested by determining whether its generalizations, which extrapolate an invariant property of all previously described languages, attribute properties to each subsequently investigated language that those languages actually have. A particular linguistic description, though it is primarily responsible to the facts about a language, is better confirmed if empirical support for it comes from general truths about language, themselves supported by a wealth of evidence from many natural languages, than if the evidence for the linguistic description is restricted to the language in question.

Although, as Katz points out, the development of a general linguistic theory clearly facilitates the writing of particular linguistic descriptions and the latter leads to further development of the former, it is equally true that the lack of a fully developed theory results in difficulties in the construction of the grammar of a language, and the paucity of specific grammars sometimes makes it difficult to support claims about universals. It is precisely this last point which often leads to criticisms of claims made by transformational linguists. For example, Lyons (1966, p. 125) suggests that '...it would appear that a somewhat broader coverage of languages in terms of generative grammar is required before we can reasonably venture an opinion about the possibility of questioning "prepositions and similar elements".'

Transformational linguists themselves are not unaware of this problem. In the literature one finds numerous references to the desirability of producing more transformational studies of particular languages, both in order to increase our understanding of these languages and in order to provide additional evidence for existing analyses and theories. For example, in his paper on the analysis of English personal pronouns as forms of the definite article, Postal suggests that a similar approach might prove revealing for Spanish (1966, p. 198; p. 234). Similarly, the need for additional linguistic studies and the comparison of grammars is recognized by Fillmore (1965, p. 5) when he states that 'The Project on Linguistic Analysis (at Ohio State University (JSF)) is concerned with research into the transformational structure of English and Chinese, with attention to the differences and similarities between the two systems of rules.'

Another problem which confronts those who attempt to write grammars is derived from the mutual dependence of rules in a grammar. A generative grammar, consisting of a generative syntactic component and the interpretive semantic and phonological components, is in fact a formal representation of the traditional linguistic notion of language as a system. Few, if any, of the rules in the syntactic component are completely independent of the other rules. The formulation of one rule will invariably affect other rules in the grammar. This is one reason why grammars are evaluated as a whole, and because this is so, the construction of a sub-grammar, i.e. of some subset of the rules for a particular language, is a complicated task.

Some of the rules in such a sub-grammar will inevitably be ad hoc since the limited nature of the undertaking excludes detailed consideration of all the linguistic facts which may affect the rules. No sub-grammar can ever be considered as the definitive treatment of the linguistic phenomena it describes. It would be absurd to suggest that because of this situation linguists should not attempt to write partial grammars, but it should also be recognized that the precise formulation of the rules is not always possible and that such grammars are tentative. Since this is the case, some authors present rules informally, delaying concrete formalization until the status of the rules is less tentative. For example, Postal's paper on English pronouns contains the statement (1966, p. 177)

> ...although the analysis suggested involves a number of highly complex grammatical rules and a very special conception of the theory of grammar, no attempt has been made here to formulate or present any of the rules in their correct form.

The two problems just discussed confront every linguist working within the transformational framework. In addition, in order to attain descriptive adequacy, a grammar must 'correctly describe the intrinsic competence of the idealized native speaker'[2] of the language. Is it possible, then, for a linguist to achieve a descriptively adequate set of rules for a language which he does not speak natively?

Postal (1966a, pp. 90-3) replies somewhat pessimistically to this question. His opinion is that some of the internalized linguistic knowledge of native speakers can be elicited by a linguist with some acquaintance with the language involved, and that this is especially true of 'the meanings of whole sentences of simple declarative form' (1966a, p. 92). Beyond this superficial level, however, Postal suggests that linguistic research can progress only by training informants as linguists.

Nevertheless, the interrelationship discussed earlier between development of the general linguistic theory and writing specific grammars lends support to the view that contributions can be made by linguists working with languages they do not speak natively. In a favorable review of Williamson (1965), Schachter points out that 'it may be the case that all languages have enough basic similarity for the linguist to use his deep intuitive knowledge of his own language in analyzing any other' (1966, p. 837). And Postal, too, in spite of a more general pessimism, comments in a footnote (1966a, p. 93) that the difficulties may

> be mitigated by the (even at present far from non-existent) advantages to be derived from approaching "exotic" languages with a highly specific, substantially rich theory of language ...the possibilities so afforded will depend very much on...the realization that the description of every aspect of a particular language must be partially determined by the knowledge we have of the nature of other languages...

Although I am not a native speaker of Spanish, I have attempted, in this study, to write a set of rules which account for several productive nominalizations in that language. In this last respect, I have had the distinct advantage of an informant who is not only a native speaker of Spanish but also a trained linguist who himself works within the transformational framework.

Nominalizations in English, similar to those I describe for Spanish, have been treated by Lees, Katz and Postal, and, in less detail, Chomsky. In fact, the availability of their discussions permitted me to obtain certain insights into Spanish, and this supports, I believe, the comments from Schachter and Postal quoted above.

NOTES TO 'PRELIMINARY OBSERVATIONS'

1 Formal universals involve the development of a set of constraints on the nature of permissible rules within the metatheory. Substantive universals include universal sets of elements, syntactic, phonological and semantic, necessary and sufficient for the description of all natural languages. The distinctive features proposed by Jakobson, for example, may form the basis for the set of substantive phonological universals.

2 Chomsky (1965, p. 24).

CHAPTER I: INTRODUCTION

In the literature on the transformational grammar of English, several major linguists have offered rules designed to account for three productive nominalizations in a descriptively adequate way. These nominalizations, generally referred to as fact, manner, and abstract noun, also occur in Spanish, and the present study offers a set of rules to account for them.

While this study is intended primarily as a contribution to the grammar of Spanish, the rules which have been proposed for the similar English nominalizations are also examined. This step seems desirable because of the admittedly strong claims made by Chomsky (1965) concerning the possibility of many grammatical rules being universal and in view of the close relationship between theory development and grammar writing discussed in the preceding section. Given increasing recognition of the similarities among languages, the traditional dictum that each language should be described without reference to the grammar of any other language is truly regressive in nature. The attainment of a descriptively adequate set of rules is a sufficiently difficult undertaking, and it should not be made even more difficult by a self-imposed and unnecessary blindness to progress already made in the treatment of similar phenomena in another language.

I will, therefore, discuss the rules proposed for English whenever these are relevant for Spanish and will, in some cases, also suggest changes in the English rules when facts about Spanish nominalizations seem revealing for English as well. This study, then, in addition to presenting an account of one aspect of Spanish grammar, may also serve as a more general view of the treatment of nominalizations within the transformational framework.

The fact, manner, and abstract noun nominalizations to be considered here represent only one aspect of the much wider area of derivational morphology. There are in Spanish, as there seem to be in all languages, sets of words which are similar syntactically, semantically, and phonologically, e.g. *destruye*,[1] *el destruir*,[2] *la destrucción*; *ataca*, *el ataque*, *el atacar*; *baila*, *el bailar*, *el bailador*, *el baile*; *la lealtad*, *leal*. The words within each set are commonly said to be "related" to one another, and this fact plus the overall simplicity criterion of the general linguistic theory require that this relationship be made explicit in the grammar of Spanish.

It is possible to distinguish roughly two types of derivational processes in Spanish. The first type contains the productive derivational processes. Here we encounter derivational processes which apply to every member of a syntactic category. If there are exceptions, they are few and listable. For example, all formatives identified in the lexicon of Spanish as [+ Verb] may undergo the fact nominalization process. The following chapter contains a detailed discussion of the motivation involved in treating productive nominalizations within the syntactic component of the grammar. Briefly, it is the case that most of the rules required to explicitly relate, for example, Verbs such as destruye, ataca, baila to the nominalized forms el destruir, el atacar, el bailar respectively are independently motivated. That is, they are required in order to account for other syntactic aspects of the language. When forms such as el destruir, el atacar, el bailar can be derived from Verbs by general, transformational rules, these forms need not be listed in the lexicon.

The second type of derivational processes includes those which are quasi-productive. As an example of this, Chomsky cites the fact that in English, in the context tele_______, we can have graph, scope, phone, but in the context phono_______, we can have only graph (1965, pp. 186-8). The case is exactly parallel in Spanish: telégrafo, telescopio, teléfono, as well as telegrama and televisión, and fonógrafo, but *fonoscopio, *fonófono, *fonograma, and *fonovisión. Since the forms produced by such quasi-productive processes share certain syntactic, semantic, and phonological features, as do forms resulting from fully productive processes, it would be desirable to generate the former syntactically. Their quasi-productive nature, however, leads to rules of very limited applicability and to a complicated listing of syntactic features in the lexicon, i.e. for each formative entered in the lexicon it would be necessary to indicate with which other formatives it combines under the application of a rule.

Yet, to provide separate lexical entries for telégrafo, telescopio, teléfono, telegrama, televisión, fonógrafo, fotógrafo, etc. would result in an undesirable repetition of features in the lexicon. Chomsky concludes his discussion of quasi-productive processes with the remark (1965, p. 192)

> For the present, one can barely go beyond mere taxonomic arrangement of data. Whether these limitations are intrinsic, or whether a deeper analysis can succeed in unraveling some of these difficulties, remains an open question.[3]

How the treatment of such quasi-productive nominalizations could be handled most revealingly and economically is a question which remains unanswered at the present time. Perhaps forms like telégrafo, telescopio, fonógrafo, etc. would be entered in the lexicon separately, in spite of the loss of economy from repetition. It may be that there are general syntactic rules involved, but that these rules are complex and beyond our understanding at the present time.

It is also possible that quasi-productive forms will be handled eventually by a special sub-component of the lexicon in which lexical rules operate to derive forms like *telégrafo*, *telescopio*, etc. from formatives with severely restricted possibilities of co-occurrence. This paper is concerned primarily with certain productive nominalizations and no further discussion is offered for the problems involved in quasi-productive forms.

There are many derivational processes in Spanish which are not treated in this paper, and included among them are several which involve nouns. For example, representing related nouns and verbs, there are concrete nouns and verbs, such as *ataque*, *ataca*; *líquido*, *liquida*; *archivo*, *archiva*; and agent nouns and verbs, such as *bailador*, *baila*; *conocedor*, *conoce*; *fingidor*, *finge*. Morphological evidence seems to indicate that in the former case, verbs are derived from nouns, since it is possible to write a rule which states that the verb has the form Noun root + *a*, while it is not possible to write a general rule providing the form of the noun. Thus, *ataque* would have to be described as Verb root + *e*, while *archivo* would be Verb root + *o*.

For the agent noun, however, nominalization of the verb seems simpler, for a rule of great generality can be written, i.e. a rule which adds *dor* to the verb stem, that is to the form of the verb which includes the vowel that indicates the conjugation class of the verb. Note that in the case of _fingidor_, _finge_ (infinitive form _fingir_) this vowel will be _i_. The agentive nominalization, in fact, seems to belong to the class of productive nominalizations in that it can most simply be generated in the syntactic component.

Other nominalizations, which will not be treated further in this study, involve noun-adjective relations, such as _lealtad_, _leal_; _maldad_, _mal_; _amabilidad_, _amable_, and such homophonous forms as the so-called adjective _atacante_ "attacking", as in

(1) los soldados atacantes[4]

and the noun _atacante_ "attacker". In the latter case, it seems reasonable to assume that the form which at the surface level is a noun, e.g. in

(2) Los atacantes huyen.

is at a deeper level an adjective in a Noun Phrase, the head noun of which has been deleted. That is, the process here may well be identical to that which results in "adjectives functioning as nouns", as in

(3) Los pobres siempre tienen hambre.

The preceding examples provide an indication of the extent of the problem of derivational morphology. In limiting this paper to three productive nominalizations, we are only beginning to attack the problem.

NOTES TO 'CHAPTER I: INTRODUCTION'

1 Verbs in this paper will be cited in the third person, singular, present, indicative form. No claim is intended that such a form is the appropriate underlying representation of the formatives involved.

2 As will be seen below, Spanish fact and manner nominalizations are homophonous with the infinitive. In order to avoid confusion, the article will be included whenever the reference is to the nominalizations. It should be noted that it is not clear how all infinitive forms are generated. It may be the case that all are, in fact, nominalizations, even in cases like *quiero comer* "I want to eat." The scope of this paper is limited, however, and this problem will not be pursued further.

3 See also the attempts to deal syntactically with the problems of negative prefixes in English, Karl E. Zimmer, *Affixal Negation in English and Other Languages*: An Investigation of Restricted Productivity. *Word* 20:2. Supplement (1964), and of two-word verbs in English, James Bruce Fraser, 'Some Remarks on the Verb-Particle Construction in English' *Report of the Seventeenth Annual Round Table Meeting*, pp. 45-61.

4 Glosses are provided in Appendix I for all grammatical Spanish strings which are given in this paper. In the Appendix, each string is preceded by the same number which precedes it in the text.

CHAPTER II: DERIVATION OF NOMINALIZED STRINGS FROM UNDERLYING SENTENCES

The desirability of generating the fact, manner, and abstract noun nominalizations from underlying sentences is supported by syntactic, phonological, and semantic evidence.

1. Syntactic Motivation

Syntactically, there is strong motivation for such derivations in the existence of almost identical co-occurrence, or selectional, features in the nominalization and a parallel simple declarative sentence. Observe, for example, the sentence

(4) El hombre escribe la carta.

and the fact nominalization

(5) el escribir el hombre la carta...

The restrictions on which formatives can serve as Object-of the Verb escribe in (4) are apparently identical to those on the formative which occurs as the final Noun Phrase in (5). Similarly, the selectional features of the Noun that is Subject-of (4) are the same as those for the Noun which follows the nominalized Verb in (5). So, for any grammatical string

(6) X V Y

(where X and Y are Subject and Object, respectively, and V is the Verb) there will also be a grammatical string

(7) el V-r X Y ...

The case is precisely parallel for the abstract noun nominalization, so that while

(8) Los voluntarios construyen la casa

and

(9) la construcción de la casa por los voluntarios...

are both grammatical,

(10) *La casa construye la silla

is ungrammatical and so is

(11) *la construcción de la silla por la casa...

With the manner nominalization, the co-occurrence restrictions between Subject and Main Verb of a sentence like

(12) El pájaro canta

are the same as those for the Noun Phrase following _de_ and the form following _el_ in

(13) el cantar del pájaro...

The manner nominalization, however, differs from the fact and abstract noun nominalizations in that whereas a sentence like (14) may have an Object,

(14) La niña come una manzana

manner nominalizations apparently do not, i.e.

(15) *el comer de la niña una manzana...

This difference will be discussed in the chapter on manner nominalizations.

To provide separate lexical entries for *el escribir*, *el cantar*, *el comer*, and *la construcción*, i.e. entries distinct from those of the Verbs *escribe*, *come*, *canta* and *construye* respectively, would involve a repetition of these syntactic, selectional features. On the other hand, if the nominalized forms are derived syntactically from sentences containing Verbs, such features need be entered only once in the lexicon for the underlying Verbs.

Further syntactic motivation is provided by ambiguous strings such as

(16) la destrucción del hombre...

which can be interpreted as either: the man did the destroying, or: the man was destroyed. The ambiguity of (16) must be due to the fact that it has a surface structure derived from two different deep structures, for, in accord with the form of the semantic component developed by Katz and Postal (1964), ambiguity is due to either a lexical entry with more than one semantic interpretation compatible with the readings of other constituents in a string or to more than one underlying Phrase-marker. The former results in a semantically ambiguous string, the latter in one which is syntactically ambiguous. It would be very complex, as well as intuitively unsatisfactory, to analyze (16) as an instance of semantic ambiguity.

The derivation of (16) from the Phrase-marker which underlies the sentence

(17) El hombre destruye X

or from that underlying the sentence

(18) Y destruye al hombre

will account in a simple manner for the ambiguity of (16). It is not clear how such ambiguity could be handled by a grammar which generated nominalized strings independently of underlying sentences. Since the semantic component interprets only underlying Phrase-markers, the base component would have to provide distinct underlying Noun Phrases for (16), and these Phrase-markers would have to result in the appropriate semantic interpretations in a revealing and non-arbitrary way. Such an approach, if it is even possible, would seem to greatly complicate the rules of the base. This is particularly undesirable in view of the hypothesis that most, if not all, of the rules in the base component are universal.[1]

The Noun Phrase

(19) el tocar la mujer...

represents the fact nominalization. Unless the underlying Phrase-marker for the corresponding sentence

(20) La mujer toca

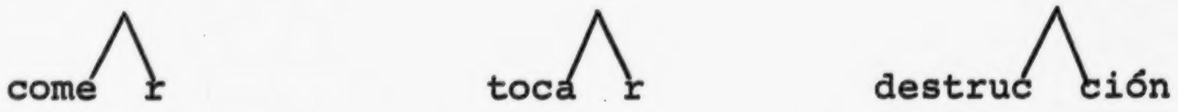
is included in the derivational history of (19) it would be difficult to account for the fact that this Noun Phrase cannot be modified by an adjective, nor can it take a relative clause, e.g.

(21) *el tocar bueno la mujer...

(22) *el tocar la mujer que me gusta mucho...

That is, (19) apparently has the labelled surface constituent structure Det + S, and not Det + Noun.

The above seems to provide sufficient justification for deriving nominalized strings from underlying Phrase-markers which contain sentences. In addition, the derived forms are morphologically complex. For the nominalizations considered here, this internal structure is generally binary, e.g.



That is, the forms consist of Verb stem + a nominalizing suffix. This internal structure, simple as it may be, must be accounted for in a grammar of Spanish. Deriving nominalized forms from underlying Verbs provides the structure, whereas independent entry in the lexicon of comer, tocar, destrucción, etc. would fail to do so.[2]

2. Phonological Motivation

Just as the repetition of syntactic features in the lexicon is undesirable, so too we wish to avoid the repetition of phonological features wherever possible. It is obvious that the Verb *come* and the nominalized *el comer*, the Verb *destruye* and the nominalized *destrucción*, and so on, will receive very similar phonological and phonetic representations. If *el comer* and *destrucción* are derived from Verbs, then the phonological features which underlie them need be represented only once in the lexicon.

Since the rules of the phonological component interpret the surface structure of a string, phonological motivation for deriving nominalizations from underlying sentences will not be as strong as the syntactic motivation discussed above. Nevertheless, the surface structure required for the correct application of the phonological rules does provide several clues to the nature of the deep structure of nominalizations.[3] Consider, for example, the fact that many phonological rules, such as those of stress assignment, require information concerning morpheme boundaries. For example, the difference in stress assignment and vowel reduction in [fi-ó] and [dyó], is the result of differences in morpheme boundaries. This lends support to the assumption made above that it is desirable for the syntactic component to produce the internal structure of morphologically complex forms.

Although relatively little has been published concerning the treatment of intonation in the phonological component,[4] rules to account for this will certainly refer to constituent structure. Now, string (19), for example, has the intonation, not of Noun Phrases like

(23) el violín viejo

or

(24) la casa de la mujer

but rather the intonation pattern is the same as that for the sentence

(25) Toca la mujer

with the preposed, unstressed element el. For intonation to be correctly assigned to (19), then, the surface structure must represent (19) as Det + S, and this S also occurs in the deep structure, as the syntactic evidence discussed above indicates.

As Chomsky has pointed out,[5] however, there are some cases in which the syntactically motivated surface structure is not appropriate as input to the phonological component. Some information needed in phonology is not generated by the syntactic component, and Chomsky has mentioned as an example of this the fact that words are not always syntactically motivated units as such. Re-adjustment rules which will provide word boundaries are required, since word boundaries are often necessary to define the environment in which a phonological rule applies. Thus, we shall see later that, while our derivations provide the information that a Verb and a nominalizing affix form a construction, there is no explicit way of distinguishing this construction as a word, and, therefore, no way of inserting word boundaries unless re-adjustment rules are added to the grammar.[6]

3. Semantic Motivation

The elimination of redundancies in the lexicon is as applicable to semantic features as to syntactic and phonological features. Since most of the semantic features for the verbs, e.g. *gasta*, *come*, *destruye*, would have to be repeated in the entries for *gastar*, *comer*, *destrucción*, it is desirable to avoid listing the latter forms in the lexicon and instead to derive them from the former.[7]

Further semantic motivation for deriving nominalizations from underlying sentences is provided by the nature of the semantic component of a grammar. The projection rules of this component operate on the deep structure of sentences by amalgamating the readings of constituents of increasingly higher levels.[8] It is generally the case, therefore, that two strings which have identical semantic interpretations in fact have identical deep structures. Likewise, two strings with very similar semantic interpretations will have very similar deep structures.

The semantic interpretations of

(26) Juan gasta el dinero

and the fact nominalization

(27) el gastar Juan el dinero...

are the same with two exceptions: (26) includes a reading for Tense while (27) is neutral as to Tense, and (27) is interpreted as a Noun Phrase with the reading "the fact that/of" but this part of the reading is lacking in (26). It is reasonable to assume, therefore, that the two strings have underlying Phrase-markers which differ only in these two ways. It is not clear how else we could account for the semantic similarities between the sentence (26) and the nominalization (27) in a simple and straightforward way.

4. Conclusion

Katz and Postal offer the following suggestion (1964, p. 157):

> Given a sentence for which a syntactic derivation is needed, look for simple paraphrases of the sentence which are not paraphrases by virtue of synonymous expressions; on finding them, construct grammatical rules that relate the original sentence and its paraphrases in such a way that each of these sentences has the same sequence of underlying P-markers. Of course, having constructed such rules, it is still necessary to find independent syntactic justification for them.

The desirability of syntactic derivation for nominalizations has been demonstrated in this chapter, along with supplementary motivation from the phonological and semantic components of the grammar. In the following chapters we will investigate paraphrases of the fact, manner, and abstract noun nominalizations, present rules providing underlying Phrase-markers which result in correct semantic interpretations, and offer a set of transformational rules, with independent syntactic justification whenever possible, that lead from deep structure to surface structure.

NOTES TO 'CHAPTER II: DERIVATION OF NOMINALIZED STRINGS FROM UNDERLYING SENTENCES'

1 Cf., for example, Chomsky's assumption, on page 117 of *Aspects*, that 'much of the structure of the base is common to all languages.'

2 At the next highest level, of course, even more structure is apparent, and this too should be accounted for in a grammar of Spanish. For example, *desesperación* is an abstract noun derived from the Verb *desespera*, which in turn is composed of the negative prefix *des* and the Verb *espera*. We are concerned here, however, only with nominalizations. For treatment of negative affixes, the reader is referred to the work by Zimmer cited in note 3 of Chapter I.

3 For discussion of some of the phonological rules for Spanish, see Foley (1965).

4 Except for the early article by Robert P. Stockwell, 'The Place of Intonation in a Generative Grammar' *Language* 1960, pp. 360-367.

5 In his phonology course at the Linguistic Institute held at UCLA during the summer of 1966.

6 It is also the case, according to Chomsky, that the surface structure sometimes contains information which is superfluous for the operation of phonological rules and which, therefore, must be erased by readjustment rules.

7 There are, of course, cases in which the semantic features of a stem formative and a derived word differ, e.g. come "eat", comedor "dining room". No claim is made about derivation by rule when such semantic irregularities exist. In fact, the example cited is apparently a quasi-productive form like those discussed in the preceding chapter.

8 For a full discussion of the operation of projection rules, see Katz and Postal (1964).

CHAPTER III: SOME RULES OF THE SYNTACTIC COMPONENT

1. The Base Subcomponent

The base subcomponent of a grammar of Spanish includes a small number of unordered, context-free rules. The set of such phrase structure rules presented below for Spanish is modeled on that suggested for English by Rosenbaum and Lochak (1966), but given Chomsky's assumption that 'much of the structure of the base is common to all languages' (1965, p. 117) the overall suitability of these rules for Spanish is not surprising. As linguists complete more grammars of a variety of languages, those phrase structure rules which are found to be universal will form part of the general theory of language and will not be included in any specific grammar.

(28) i $\text{S} \rightarrow \text{\# (PRE) (NEG) NP AUX VP \#}$

ii $\text{PRE} \rightarrow \begin{Bmatrix} \text{QUES} \\ \text{IMP} \end{Bmatrix}$

iii $\text{AUX} \rightarrow \text{T (M)}$

iv $\text{T} \rightarrow \begin{Bmatrix} \text{PRES} \\ \text{PAST} \end{Bmatrix}$

v $\text{VP} \rightarrow \text{(ha- + -do) (esta- + -ndo)} \left\{ \begin{matrix} \text{V} \; \left(\begin{Bmatrix} \text{NP} \\ \text{PP} \end{Bmatrix} \right) \left(\begin{Bmatrix} \text{S} \\ \text{PP} \end{Bmatrix} \right) \; \text{(MAN)} \\ \text{COP} \; \begin{Bmatrix} \text{NP} \\ \text{ADJ} \end{Bmatrix} \; \text{(PP)} \end{matrix} \right\}$

vi PP → PREP NP

vii MAN → PREP PASS

viii NP → (DET) N (S)

ix DET → ART (S)

x ART → (WH) $\left\{\begin{matrix}\text{DEF}\\ \text{INDEF}\end{matrix}\right\}$

The interpretation of the symbols used in these rules is as follows:

#	sentence boundary	T	tense
S	sentence	M	modal
PRE	pre-sentence	PRES	present
NEG	negative	PAST	past
NP	noun phrase	PP	prepositional phrase
AUX	auxiliary	MAN	manner
VP	verb phrase	COP	copula
QUES	question	ADJ	adjective
IMP	imperative	ART	article
PREP	preposition	WH	a scope marker for QUES[1]
PASS	passive		
DET	determiner		

The chief difference between the rules given here and those presented by Rosenbaum and Lochak concerns the element PRE. The latter offer the following rules (1966, p. 5):

(29) S → # (PRE) NP AUX VP #

(30) PRE → (NEG) (QUES)

Note that rule (30) develops PRE as NEG + QUES, NEG, QUES, or nothing. Rosenbaum and Lochak, however, have omitted IMP, either intentionally or by oversight. At which point should IMP be introduced?

Rule (30) cannot be expanded to

(31) PRE → (NEG) (QUES) (IMP)

for such a formulation would require an ad hoc restriction in order to prevent Imperative Questions. That is, there are negative imperatives in both Spanish and English, e.g.

(32) Don't go home!

(33) ¡No vaya a casa!

and there are negative questions

(34) Didn't he go home?

(35) ¿No fué él a casa?

but questioned imperatives and imperative questions are ungrammatical in both languages.

On the other hand, a rule like

(36) $\text{PRE} \rightarrow (\text{NEG}) \left(\begin{Bmatrix}\text{QUES}\\ \text{IMP}\end{Bmatrix}\right)$

correctly results in grammatical strings like (32)-(35) and fails to generate ungrammatical strings.

Rule (36) provides the constituent structure needed to account for the fact that in both Spanish and English the fact nominalization transformation applies whether or not NEG has been selected in the base subcomponent, but it never applies to an underlying string which contains QUES or IMP. That is, NEG must be distinguished at some point from QUES and IMP. Thus, for Spanish, the strings

(37) el gastar el dinero...

(38) el no gastar el dinero...

are fully grammatical, but there are no grammatical strings containing a nominalized question or imperative. It is not even clear what surface structure such forms might have.

The case is parallel for English, where nominalized questions and imperatives do not occur, although both affirmative and negative nominalized strings are grammatical, e.g.

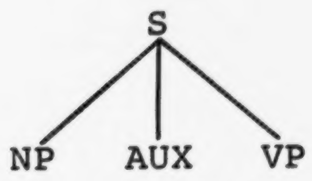
(39) his driving the car...

(40) his not driving the car...

Thus, the data from Spanish support the separation of NEG from QUES and IMP in the rules of the base subcomponent, and this separation appears to be equally necessary for English.

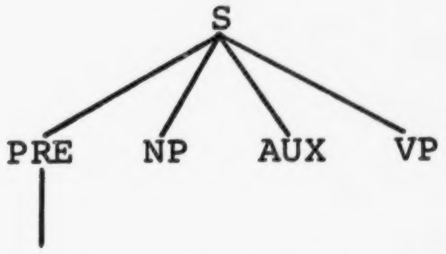
Rule (36) is still not satisfactory, however. Note that rules (29) and (36) result in two different Phrase-markers, both of which lack a PRE element at the lowest level. That is, if we choose not to select PRE in (29) we obtain a Phrase-marker

(41)



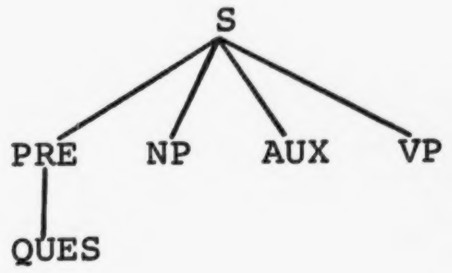
If, on the other hand, we do choose PRE in (29), but do not choose any option in (36) the following Phrase-marker results

(42)



and this contrasts with a Phrase-marker in which PRE is developed further, e.g.

(43)



Now, different underlying Phrase-markers should result in different semantic interpretations, but it is difficult to see how sentences resulting from (41) and (42) would differ in meaning. This problem could be overcome by placing on rule (36) a condition that one of the elements to the right of the arrow must be chosen. This, however, would complicate the rule unless such a condition is general and therefore part of the metatheory.

Since, as we have demonstrated, NEG must at some point be generated separately from QUES and IMP, we propose introducing NEG independently in rule (28i) and developing PRE only as QUES or IMP. Note that this eliminates the problem of two ways of generating Phrase-markers in which PRE is ultimately zero, for by (28i), PRE is optional, but if it is chosen, (28ii) obligatorily rewrites it as either QUES or IMP.[2]

In all other respects, the rules presented in (28) follow those of Rosenbaum and Lochak.

Chomsky's demonstration of the necessity of including strict subcategorization and selectional rules in the base subcomponent (1965, pp. 75-127) requires the addition of such rules to the set of phrase structure rules given in (28) for Spanish. These additional rules, taken from those offered for English by Chomsky (1965, p. 107), may be represented informally as follows

(44) N → CS

(45) V → CS

where CS, i.e. a complex symbol, is an abbreviation for a collection of specified syntactic features such as [+ DET ___] , [+ ___ S] , etc. There are also inherent features like those given in (46) - (48).

(46) N → [+ N, ± Animate, ± Common]

(47) [+ Common] → [± Count]

(48) [- Count] → [± Abstract]

In addition, a selectional rule is necessary which analyzes Verbs in terms of the syntactic features of their Subject and Object Nouns, i.e.

(49) [+ V] → $CS/\alpha^\frown AUX\_\_\_\_\_\_(DET^\frown\beta)$ where α is an N and β is an N

The rules presented in this section, along with the lexical insertion transformation which applies just after strict subcategorization and selectional rules,[3] seem to be adequate for generating the underlying structure for all of the sentences of Spanish to be treated here, as well as for an infinite number of other Spanish sentences which will not concern us further. This generative power is provided by the recursive occurrence of S in VP, NP, and DET in the rules of (28).[4]

2. The Transformational Subcomponent

The rules of the transformational subcomponent of a grammar operate in a cycle on any underlying Phrase-marker which contains more than one occurrence of S. These rules apply first to the most deeply embedded S, then to the next most deeply embedded one, and so on until the final S, i.e. that which dominates the entire underlying Phrase-marker. Thus, the rules presented in this section, as well as others which are formulated below, may apply more than once in the derivation of a string.

Since we are concerned here primarily with accounting for certain productive nominalizations in Spanish, many of the transformational rules which apply to strings generated by the base subcomponent rules given above are not included. For example, no transformations necessary solely for generating questions or imperatives will be given here, since these sentence types are not relevant for the derivation of nominalized strings, other than in the negative sense discussed above.

The five transformational rules which follow must be included in any grammar of Spanish, for they are necessary in the generation of almost any grammatical Spanish sentence. These transformations apply interspersed with those offered in the following chapters for fact, manner, and abstract noun nominalizations, and it is because of their wide applicability and ordering close to the surface level that they are presented in this special section.

The first transformation is an agreement rule which projects the feature [α Singular] from the Subject Noun to the node dominated by Tense in the underlying Phrase-marker.

(50) $\# \ X \ [\ (DET) \ [\ [\ \alpha \ Sing. \ ] \ ]_{N} \ Y \ ]_{NP} \ T \quad Z \ \#$

$1 \ 2 \quad 3 \quad 4 \quad 5 \ 6 \Rightarrow$

$1 \ 2 \quad 3 \quad 4 + \alpha \ Sg. \quad 5 \ 6$

So, for example, if the Subject Noun is [+ Sing.] , the feature [+ Sing.] is now added to the Tense marker, which will be either PRES or PAST, depending on how rule (28iv) was applied.

Rule (51) also involves agreement. It obligatorily projects the features [α Sing.] and [β Masculine] from a Noun to a Determiner, under the condition that both DET and N are directly dominated by NP.

(51) $X \ [\ DET \quad (Y) \quad [[\beta \ Masc][\alpha \ SING]]_{N}]_{NP} Z$

$1 \quad 2 \quad (3) \quad 4 \quad 5 \Rightarrow$

$1 \quad 2+[\beta \ Masc][\alpha \ SING] \quad (3) \quad 4 \quad 5$

That is, in Spanish determiners must agree in gender and number with the Nouns they modify.

A third obligatory transformation involves the correct positioning of verbal affixes. It transfers all affixes, such as T and the elements which it dominates, to the right of the Verb stem which immediately follows in the underlying Phrase-marker.

(52) $X \quad Affix \quad Stem \quad Y$

$1 \quad 2 \quad 3 \quad 4 \Rightarrow$

$1 \quad \emptyset \quad 3+2 \quad 4$

where Stem[5] = [+ M], [+ V], [+ COP], *ha-*, *esta-*; and Affix = T, *-do*, *-ndo*

Note that, as formulated, transformations (50) and (52) are ordered. If the ordering were reversed, (52) would reposition the affix T before the number agreement was obtained, and (50) would not apply since T would no longer follow the subject NP. This would result in an ungrammatical sentence, i.e. one in which the Verb was unmarked for number. Of course, (50) and (52) might be reordered with respect to one another if the rules were reformulated. In this way, we could generate only grammatical strings. Such reformulation, however, would result in a more complex structural condition for rule (50), and thus it would be less desirable than the present formulation.[6]

It may well be possible to formulate each of these transformations more generally. Thus, the first may also be capable of providing for agreement of person along with that of number; the second may have wider applicability in that it may also account for agreement of Nouns and Adjectives; and perhaps the third could be expanded to include other affixes. Since none of these expansions is immediately relevant to the derivations being discussed here, we will accept the simplified versions for now.

In Spanish, any Subject NP may be reordered from its original position preceding AUX to a position immediately following the Main Verb of the same sentence, i.e. the V of the VP that is directly dominated by the same S that directly dominates the NP in question. Thus, both

(53) El hombre escribe la carta

and

(54) Escribe el hombre la carta

are grammatical. An optional transformation effects this reordering.[7]

(55)	#	X	NP	(AUX)	[V		Y]$_{VP}$	#	
	1	2	3	(4)	5		6	7	⇒
	1	2	∅	(4)	5	3	6	7	

It is interesting to note at this point that at the present stage of grammars written within the transformational framework, most optional transformations seem to involve stylistic variations. For example, of the seventy-three transformational rules for English presented by Rosenbaum and Lochak, fifty-eight are obligatory. The remaining thirteen optional rules for the most part result in paraphrases. For example, the Phrase-marker which represents

(56) the boy who is good

may undergo an optional transformation which leads to a Phrase-marker representing

(57) the good boy

It may be the case, therefore, that optional transformations are the formal analogue of stylistic variation.

Chomsky, however, states that

> In general, the rules of stylistic reordering are very different from the grammatical transformations, which are more deeply embedded in the grammatical system. It might, in fact, be argued that the former are not so much rules of grammar as rules of performance. (1965, p. 127)

While this may be correct in many cases, it does not seem to be true for rule (55). While the rule is optional, it is fairly deeply embedded in the grammatical system, for we shall see below that unless it is chosen for those constituent sentences which eventually undergo the fact nominalization, an ungrammatical sentence will be generated. That is, for fact nominalizations only the post-verbal position produces a grammatical string, e.g.

(58) el escribir el hombre la carta...

but

(59) *el hombre el escribir la carta

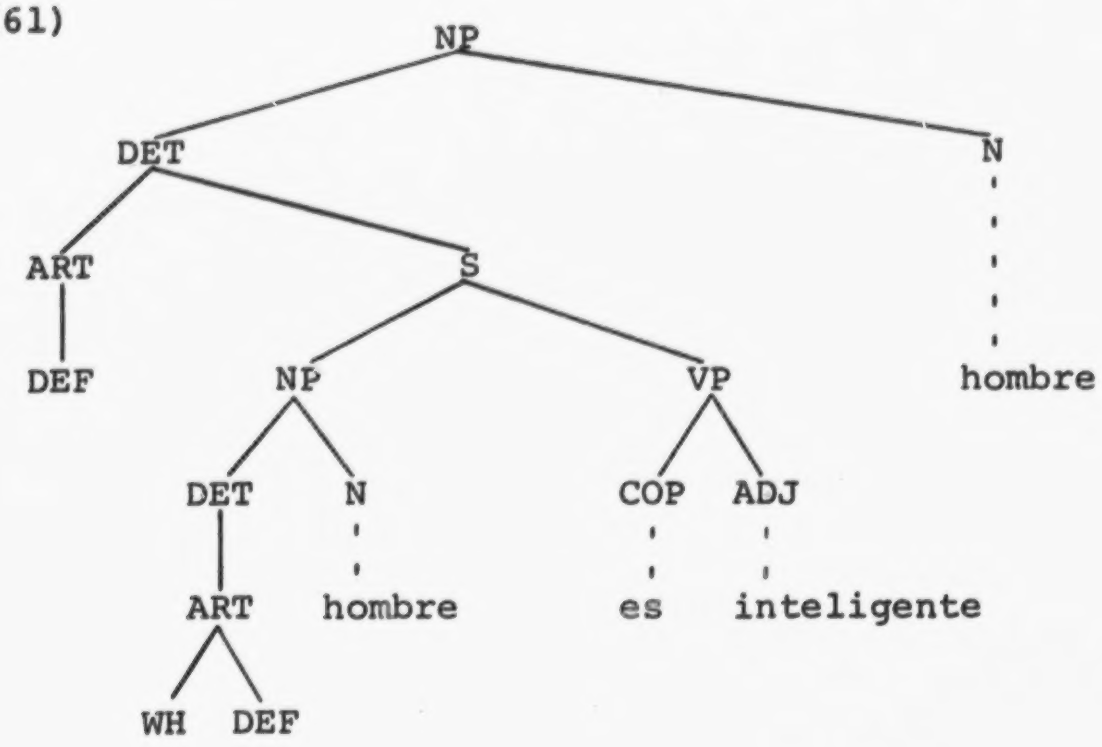
Therefore, the Subject reordering transformation is a rule in the grammar of Spanish. It could be argued, of course, that there are actually two Subject reordering rules, one of which is a rule of grammar, occurs well within the grammatical system, and applies to constituent sentences which undergo nominalization, while the other is actually a rule of performance and applies to sentences like (53) producing stylistic variations like (54). But this would require the repetition of the same rule, or at least writing two very similar rules and it would lead to loss of the generalization that Subject reordering does occur in both un-nominalized and nominalized sentences.

Recall that by rule (28ix), the DET node may dominate an S in the deep structure of a Spanish sentence. The following transformation reorders any such S to the right of the N dominated by the same NP which dominates the DET in question. At a later time, another transformation, to be discussed below, results in a formative which we will represent as que between the N and the transposed S. Rule (60) places Relative Clauses and Adjectives, both of which are developed from embedded sentences, after the Noun they modify.

$$\begin{array}{llllll} (60) & [\ \mathrm{ART} & \mathrm{S} & \mathrm{N} & \mathrm{X}\ ]_{\mathrm{NP}} & \\ & \quad 1 & 2 & 3 & 4 & \Rightarrow \\ & \quad 1 & \emptyset & 3+2 & 4 & \end{array}$$

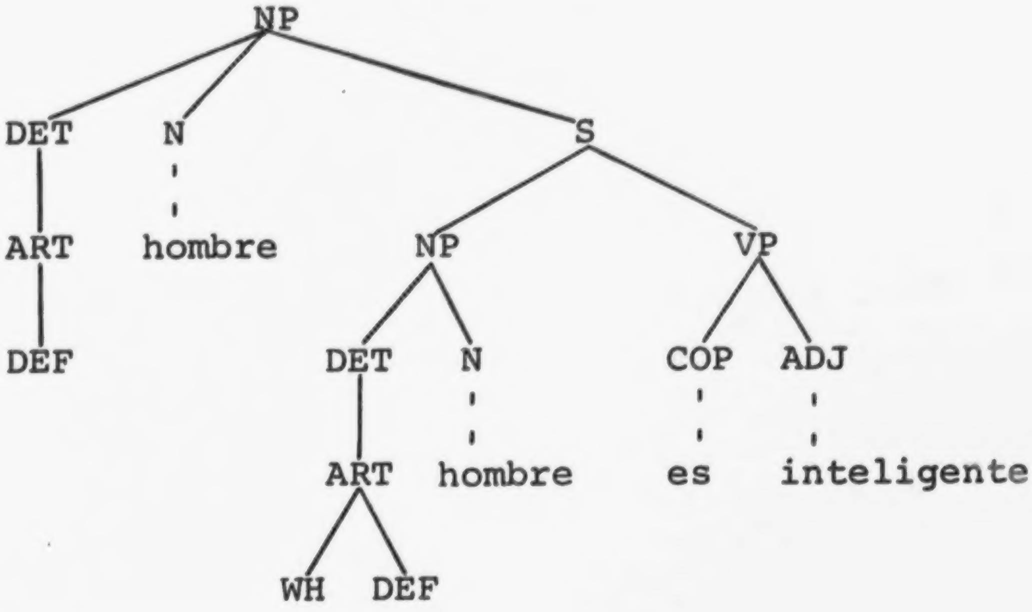
For example, the simplified underlying Phrase-marker

(61)


NP
DET
N
ART
S
DEF
NP
VP
hombre
DET
N
COP
ADJ
ART
hombre
es
inteligente
WH
DEF

is converted by rule (60) to the derived Phrase-marker

(62)


NP
DET
N
S
ART
hombre
NP
VP
DEF
DET
N
COP
ADJ
ART
hombre
es
inteligente
WH
DEF

which, following the application of a transformation which obligatorily deletes the second of identical Noun constituents, and a rule, given in Chapter V, which transforms WH+DEF DET to que, results in the string

(63) el hombre que es inteligente...

Another transformation, which is discussed below, optionally deletes the sequence *que + es*, resulting then in the string

(64) el hombre inteligente...

It should be mentioned here that Relative Clauses always follow the Noun in Spanish and that Adjectives normally do. Most Adjectives, however, may also precede the Noun. To account for this, we might suggest that rule (60) be made optional. Then, if it were applied, (63) would be developed obligatorily and (64) optionally. If rule (60) were not applied, however, we would have to add an obligatory rule which would delete *es*, in addition to using the identity deletion transformation mentioned above. Then,

(65) el inteligente hombre...

would result. An *es* deletion rule, unlike one which deletes *que + es*, has no additional justification. In addition, the non-normal string (65) would be generated by only obligatory rules, while the normal word order represented by (64) would be the result of two optional rules. Since this solution seems to contradict what was said above about the relationship between optional transformations and stylistic variation, we accept the first proposal in which (60) is obligatory. (65) might then be accounted for by a later optional rule which converts the Phrase-marker underlying (64) to that which represents (65). This reordering rule may in fact be a rule of performance as suggested by Chomsky.

The existence of Adjectives which have different meanings when positioned before and after Nouns, e.g.

(66) mi amigo viejo "my old (elderly) friend"

(67) mi viejo amigo "my old (long-time) friend"

is not necessarily a counter-example to the suggested treatment. Such Adjectives can be handled quite simply by entering them twice in the lexicon, i.e. viejo would be entered twice, once with the semantic reading "elderly", and once with the reading "long-time". These two entries would differ in a special type of syntactic feature, the latter having a feature which requires application of the reordering rule, while the former would not have this feature. Note that this solution, however, requires that the reordering rule occur in a grammar of competence, i.e. this is not a performance rule.

NOTES TO 'CHAPTER III: SOME RULES OF THE SYNTACTIC COMPONENT'

1 Katz and Postal discuss the use of the wh morpheme to indicate which element in a sentence is questioned and offer the hypothesis that wh is introduced by a universal rule (1964, pp. 86-120).

2 Of course, NEG, QUES, and IMP are no longer dominated by a single non-terminal symbol, and there may be transformational rules which require mention of a class containing all three. Whether rules (28i) and (28ii) or rules (29) and (36) will ultimately result in the simplest grammar can only be determined after more transformational rules have been written.

3 The lexical insertion transformation need not be specified in the grammar of Spanish since it is a universal rule and thus part of the general theory. This rule is formulated by Chomsky, (1965, p. 84), as follows

> If Q is a complex symbol of a preterminal string and (D, C) is a lexical entry, where C is not distinct from Q, then Q can be replaced by D.

4 At the stage of development of transformational grammar represented in *An Integrated Theory.....*, such embedded sentences were dominated by nodes labelled REL and COMP. Given the rules presented in (28), any S directly dominated by VP or NP is automatically a Complement, while an S directly dominated by DET is a Relative. Thus, it is not necessary to introduce the symbols REL and COMP in the base subcomponent, for to do so would result in underlying Phrase-markers which contain redundant information.

5 Notice that there is no non-ad hoc way of representing this class of elements. Just as we require of a phonological theory that it provide us with the natural classes needed by the phonological rules, it does not seem unreasonable to require this of the syntactic theory also. The problem deserves additional study. Of course, it may be the case that the rules (28) or the transformation (52) is formulated incorrectly.

6 For example, it might be possible to rewrite (50) so that it could apply after (52) by specifying the structural index of the former as $\# \; X \; [\; (DET) \; [\; [\; \alpha \; Sing. \;] \;]_{N} \; Y \;]_{NP} \; Stem \; T \; Z \; \#$. This is more complex,

however, for it requires explicit mention of one additional element, Stem, plus a statement, like that required in (52), of what Stem represents. Of these two solutions, the one presented in the text is simpler, and will therefore be used in this study.

7 The specification of AUX as an optional element in this rule, even though it is obligatory in rule (28i), is due to the fact that if M was not selected in the base rules, there would be no AUX at this point, since transformation (52) moves T, and the AUX which dominates it, to a position dominated by V.

CHAPTER IV: THE FACT NOMINALIZATION

1. Examples

The Spanish fact nominalization is a Noun Phrase which consists of *el*, usually optional, followed by a Sentence. In the surface structure of this string, the Verb occurs initially in the embedded Sentence and is in the form of an infinitive. The following sentences contain typical fact nominalizations.

(68) *Escribir* es agradable.

(69) *El escribir* es agradable.

(70) *El escribir el muchacho* me sorprende.

(71) *El escribir el muchacho la carta* me sorprende.

(72) *El no escribir el muchacho la carta* me sorprende.

(73) *Escribir una carta* es agradable.

(74) *El escribir una carta* es agradable.

(75) *El haber estado escribiendo el muchacho la carta* me sorprende.

(76) *El escribir el muchacho la carta bien* me sorprende.

A grammar which generates sentences (68)-(76) must account for the following semantic and syntactic characteristics of fact nominalizations.

2. Semantic Characteristics

The fact nominalization is characterized semantically by its interpretation and by its paraphrases. This nominalization is sometimes said to be interpreted as referring to a fact.[1] Actually, such an interpretation is too specific. The paraphrases of this nominalization occur in (77) and (78). (79) and (80), although similar in meaning, are not identical and, therefore, are not true paraphrases of sentence (70).

(77) Que el muchacho escriba me sorprende.
(78) El que el muchacho escriba me sorprende.
(79) El hecho que el muchacho escriba me sorprende.
(80) El hecho de escribir el muchacho me sorprende.

In support of the relationship between (70) and (77)-(78), note the following sentences illustrating identical syntactic restrictions regarding the Predicate Adjective of the matrix Sentence.

(81) El escribir el muchacho es dudoso.
(82) Que el muchacho escriba es dudoso.
(83) El que el muchacho escriba es dudoso.

That (79) and (80) are not valid paraphrases of (81)-(83) is supported by the fact that (84) and (85) are not grammatical.

(84) *El hecho que el muchacho escriba es dudoso.
(85) *El hecho de escribir el muchacho es dudoso.

In addition, the underlying Phrase-marker for (77) and (78) may undergo the Subject reordering transformation (55), in which case we would have the following grammatical strings as further paraphrases of (70), (77), and (78).[2]

(86) Que escriba el muchacho me sorprende.

(87) El que escriba el muchacho me sorprende.

Note that the el which appears in the surface structure apparently does not contribute to the meaning of the nominalizations or their paraphrases, i.e. the interpretations of (77) and (78) and of (86) and (87) are identical. Similarly, in (68) and (69) and in (73) and (74), the two sentences have the same interpretation.

While the paraphrase relationship of sentences (70), (77), (78), (86), and (87) indicates that they are all derived from the same underlying Phrase-marker, semantic identity is not sufficient evidence for positing identical deep structure. There must be syntactic motivation as well. We shall see below that in order to account for the syntactic characteristics of the fact nominalization and, independently, for those of its paraphrases, the simplest and most revealing rules are obtained when we posit the same deep structure for both the nominalization and the paraphrases.

3. Syntactic Characteristics

The surface structure of fact nominalizations and their paraphrases displays a variety of syntactic phenomena which must be accounted for. These characteristics involve: (1) the Determiner el, (2) the Verb, (3) the PRE element, and (4) modification of the nominalized string.

3.1. The Determiner

The first syntactic characteristic of the fact nominalization is the Determiner which may precede the nominalized Sentence. The syntactic conditions governing the occurrence of this Determiner are as follows. The Determiner is obligatorily present when the Subject-of the nominalized Sentence is expressed. That is, sentences (70), (71), (72), (75) and (76) are grammatical, but the following sentences are not.

(88) *Escribir el muchacho me sorprende.

(89) *Escribir el muchacho la carta me sorprende.

(90) *No escribir el muchacho la carta me sorprende.

(91) *Haber estado escribiendo el muchacho la carta me sorprende.

(92) *Escribir el muchacho la carta bien me sorprende.

In all other cases, the occurrence of the Determiner is optional. Compare, for example, sentences (68) and (69) and sentences (73) and (74).

Concerning the paraphrases of the fact nominalization, there are also restrictions on the occurrence of the Determiner, i.e. only _el_ occurs. The paraphrases differ from the nominalization itself, however, in that in the former, _el_ is always optional. Thus, (77) and (78), as well as (86) and (87) are grammatical.

The Determiner which occurs with both the fact nominalization and its paraphrases is the masculine, singular form _el_. No other Determiner is permissible with the fact nominalization or with its paraphrases.[3] That is,

(93) *un escribir el muchacho...

(94) *su escribir la carta...

(95) *un que el muchacho escriba...

(96) *la escribir el muchacho...

(97) *los escribir el muchacho...

(98) *los escribires el muchacho...

(99) *los que escriba el muchacho...

The rules which generate the fact nominalization and its paraphrases, both in the base and transformational subcomponents, must account for the restriction of the Determiner to _el_ and the conditions on its occurrence.

3.2. The Verb

The other syntactic characteristics of the fact nominalization for which the grammar must account are related to the embedded Sentence which, in the surface structure, follows the Determiner just discussed.

The main Verb of this embedded Sentence always appears sentence-initially and as an infinitive in the derived sentence. Thus, the following strings are not grammatical.

(100) *el el muchacho escribir...

(101) *el escribe el muchacho...

(102) *el escriba el muchacho...

(103) *el escribiendo el muchacho...

For the paraphrases of the fact nominalization, it is the case that these characteristics of form and position do not hold. That is, in (77), (78), (86), and (87) the verb is inflected and is not restricted to initial position in the embedded sentence. The grammar must also account for these facts.

Sentence (75) shows that fact nominalizations may be developed from embedded sentences which contain fully expanded Verb Phrases. This is also true of the paraphrases.

3.3. The PRE and NEG Elements

Another syntactic characteristic of the fact nominalization is that while any affirmative or negative declarative embedded sentence may be so nominalized, there are no fact nominalizations of questions or imperatives. That is,

γ

(104) *¡*El escriba usted la carta*! me sorprende.

(105) *¡*El escribir usted la carta*! me sorprende.

(106) *¿*El escribe usted la carta*? me sorprende.

(107) *¿*El escribir usted la carta*? me sorprende.

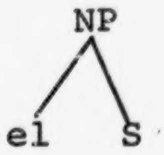
The paraphrases of the fact nominalization also do not admit questions or imperatives, e.g.

(108) **El que ¡escriba usted*! me sorprende.

Thus, embedded sentences in the underlying Phrase-marker of fact nominalizations, and, of course, their paraphrases, cannot contain a node PRE, although NEG may be present. In this regard, recall the discussion in Chapter III concerning the separation of NEG and PRE in the base rules.

3.4. Modification

The grammar must also account for the fact that although the optional *el* and the nominalized embedded Sentence which comprise the fact nominalization are a Noun Phrase, this NP, in the surface structure, does not contain a Noun as head. That is, neither the infinitive of the nominalized sentence nor the entire nominalized sentence itself is a Noun. The surface structure of a nominalized string, therefore, must be represented by a derived Phrase-marker like



This is indicated by three syntactic facts: (1) the limitation on the Determiner; apparently no Spanish Nouns are so limited as to take only one form of the Determiner; (2) the lack of a plural; (3) fact nominalizations can be modified only by Adverbs, not by Adjectives or Relative Clauses. Thus, while (109) is grammatical, (110)-(114) are not.

(109) El escribir una carta bien es cosa difícil.

(110) *El bueno escribir una carta es cosa difícil.

(111) *El escribir bueno una carta es cosa difícil.

(112) *El escribir una carta bueno es cosa difícil.

(113) *El escribir que me gusta una carta es cosa difícil.

(114) *El escribir una carta que me gusta es cosa difícil.[4]

It should be explained here that while some fact nominalizations may seem to be modified by Adjectives, these do not constitute counter-examples. Thus, the following sentence is grammatical.

(115) El tocar la mujer perfecto me encanta.

In fact, however, *perfecto* is not an Adjective in this sentence. It is an Adverb, *perfectamente*, to which an optional transformation has applied which deletes -*mente* from certain Adverbs which are marked in the lexicon as permitting such deletion. The non-grammaticality of such sentences as (110), (111), and (112) is due to the fact that bueno in these sentences presumably cannot be the result of the -mente deletion transformation, since bien does not permit this deletion.[5] This is apparent from the fact that the sentence (116) is ungrammatical, while (117) is grammatical, and both (118) and (119) are grammatical.[6]

(116) *Escribe bueno una carta.
(117) Escribe bien una carta.
(118) Toca la mujer perfecto.
(119) Toca la mujer perfectamente.

Concerning modification of the embedded sentence, we find that once again the paraphrases of the fact nominalization share with it certain syntactic features. Thus, for (77) and (78), as well as optional el and lack of a plural, modification is also by Adverbs and not Adjectives, e.g.

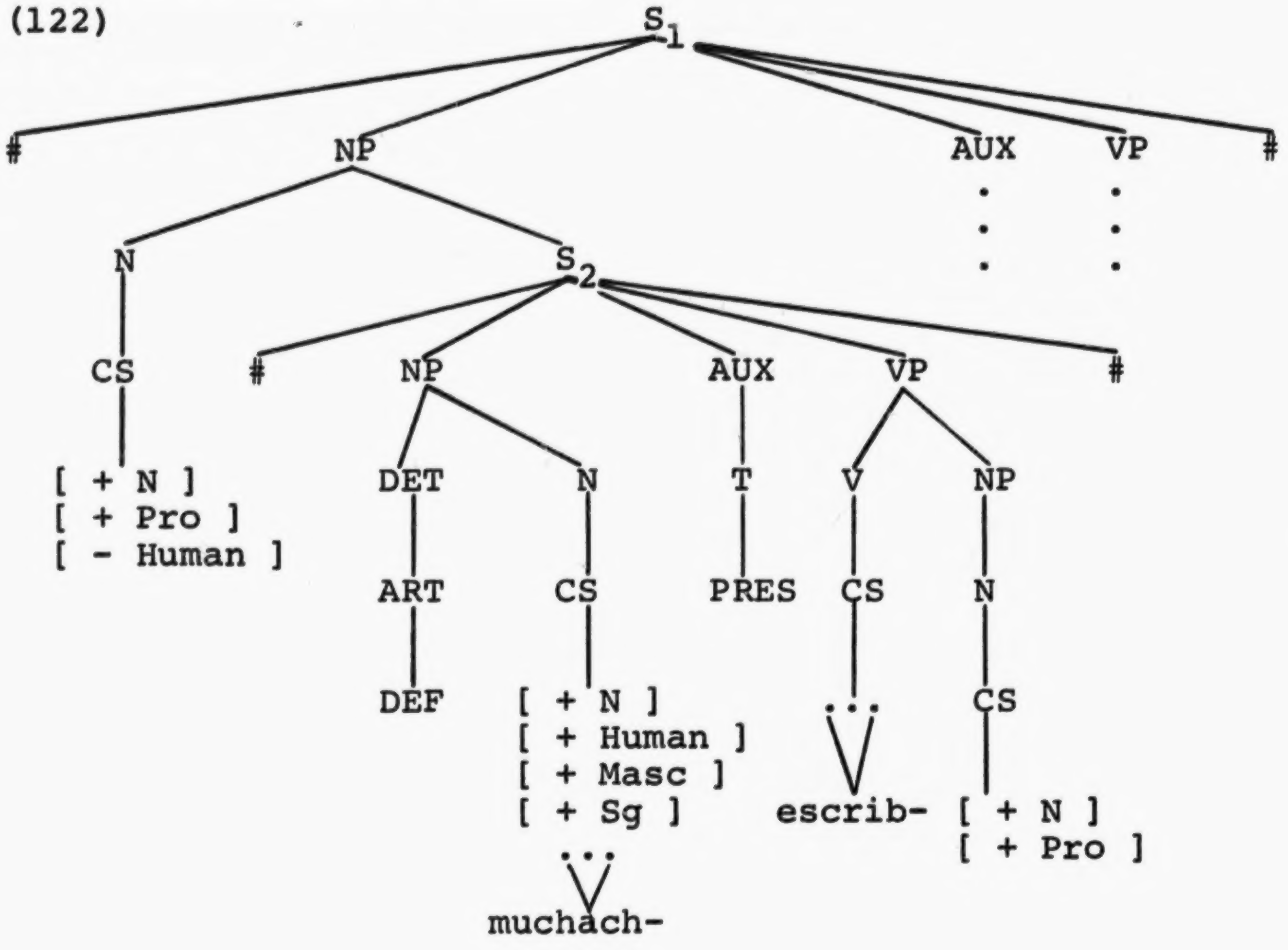
(120) Que el muchacho escriba bien me sorprende.
(121) *Que el muchacho escriba bueno me sorprende.

4. The Underlying Phrase-Marker

Since the semantic interpretations of (70), (77), (78), (86), and (87) are identical and since the fact nominalization and its paraphrases share a large number of syntactic characteristics which would otherwise have to be repeated and accounted for twice, there is ample justification for deriving the nominalization and the paraphrases from the same underlying Phrase-marker. In order to avoid irrelevant complications here, we will henceforth consider only that portion of the Phrase-marker containing the Subject-of the matrix Sentence in which the constituent Sentence to be nominalized is embedded.

It is proposed here that the deep structure of sentences (70), (77), (78), (86), and (87) is that presented in the underlying Phrase-marker (122).[7]

(122)


S1
#
NP
AUX
VP
#
N
S2
CS
#
NP
AUX
VP
#
[+ N]
[+ Pro]
[- Human]
DET
N
T
V
NP
ART
CS
PRES
CS
N
DEF
[+ N]
[+ Human]
[+ Masc]
[+ Sg]
CS
escrib-
[+ N]
[+ Pro]
muchach-

The Phrase-marker is generated by applying the phrase structure rules (28), strict subcategorization rules like (44)-(48), the selectional rule (49), and the lexical insertion transformation.

All aspects of this Phrase-marker were discussed in general terms in Chapter III, Section 1, with the exception of the syntactic feature [+ Pro], which occurs in (122) in the CS of the Subject N of the matrix S and the Object N of the embedded S. Since the notion of Pro-forms is of particular importance in the generation of this nominalization, as well as of some importance for others treated in this study, we digress slightly here in order to discuss the concept.

Katz and Postal describe PRO as 'a universal constituent' whose function is to 'characterize formally at the syntactic level the class of all, and only, ...representatives of major categories' (1964, p. 80). In English, for example, one Pro-form which represents the major category Noun is given by Katz and Postal as one. This Pro-form may be inserted under the CS of any N which contains the syntactic feature [+ Human].[8]

Although such Pro-forms may be developed into words which actually occur in the surface structure of a string, e.g. one, when preceded by an INDEF ART, may be developed as someone,[9] the unique syntactic feature of Pro-forms is that they are freely deletable.

Transformations must be limited in what they can delete or else the result in some cases is infinite ambiguity. For example, in the sentence

(123) Viene mañana.

the Subject NP has been deleted. If deletion transformations were formulated so broadly that any NP could be deleted, (123) would be infinitely ambiguous since there are an infinite number of NPs which could have been the Subject, e.g.

(124) el hombre

(125) Juan

(126) mi madre

(127) el profesor de la Universidad de México

If, however, deletion transformations may apply only under certain special conditions, this undesirable ambiguous interpretation can be avoided.

The conditions on deletability are: (1) when the structural index of the transformation specifically mentions a terminal symbol which is to be deleted; an example of this is given in the next section when que is deleted in the process of deriving a fact nominalization from (122), and (2) when the string to be deleted is repeated elsewhere in the Phrase-marker to which the transformation applies; this occurs, for example, in the generation of Adjectives and Relative Clauses, such as those discussed in Phrase-markers (61) and (62) and strings (63) and (64).

Since sentence (123) does not meet either of these conditions and since descriptive adequacy requires that it be generated in an unambiguous way and with a vague, "understood" Subject, a third condition for deletability is necessary: (3) deletion transformations are permissible when the form to be deleted is a Pro-form. Thus, the deleted Subject of (123) is unambiguously a Pro-form.

A comprehensive study of Spanish Pro-Nouns is available in Lackstrom (1967). A full discussion of the form, features, and motivation for the Pro-Nouns occurring in (122) may be found there, especially on pages 87-90.

The occurrence of a Pro-form in the matrix S of (122) is determined, in part, by this feature of deletability. The phrase structure rules (28) develop NP as an obligatory N, with optional DET and S. The Subject NP of the matrix S in (122) must, therefore, contain N, but this N does not occur in the surface structure of (70), (77), (78), (86) or (87). Since this N must be deleted at some point in the generation of these sentences, their underlying Phrase-marker must conform to one of the three conditions for deletability. There is no motivation for constructing either a Phrase-marker or transformations which meet the first two conditions, but several factors support the positing of a Pro-Noun here. Semantically, for example, there is no element of meaning which could be assigned to the deleted N other than the feature [- Human]; it is merely a general representative of the syntactic category N. That is, the interpretation of (70) and its paraphrases is simply "Something surprises me, and that something is that the boy writes." This general reference, or vagueness, is precisely a feature of Pro-forms.

Syntactic motivation for the Pro-form in the Subject NP of (122) comes from the deletability of the N in this NP, as well as from the fact that positing the Pro-form with only the features [+ N], [+ Pro], and [- Human] here accounts for the limitations on the DET.

Recall that some Pro-forms can be developed into a form which occurs in the surface structure of a string. For Spanish, the Pro-Noun given in (122) may be developed as algo if it is preceded by an Indefinite Determiner (Lackstrom; 1967, p. 88). One feature of the word which indicates that the underlying Pro-form in (122) is correct, is the fact that when it is morphophonemically developed, it is not inflected for gender and it does not occur in the plural, i.e.

(128) *alga

(129) *algos

(130) *alguienes

These facts are explained by the assumption of the validity for syntactic features of the notion of marked and unmarked categories. There is adequate evidence in Spanish that [Masculine] is unmarked, while [Feminine] is marked. Similarly, [Singular] is the unmarked number; [Plural] is marked. Thus, the Pro-Noun occurring in (122), and the developed form of that Pro-Noun algo, is unmarked for gender and number and so automatically assumes the masculine, singular form.[10]

A second characteristic of the word algo is that it does not occur with Indefinite, Demonstrative, or Possessive Determiners, e.g.

(131) *un algo

(132) *este algo

(133) *su alguien

In fact, it does not co-occur with the Definite Determiner either,

(134) *el algo

Lackstrom (1967) accounts for this by describing algo as a morphophonemic fusion of an Indefinite Determiner and a Pro-Noun with the features [+ Noun], [+ Pro], and [- Human].

Given the fact that el does not contribute semantically to the fact nominalization or to its paraphrases, the suggestion that the underlying Phrase-marker (122) contains no DET in the Subject NP of the matrix S is well motivated. That is, the simplest way of accounting for the severe limitations on the DET which can precede the fact nominalization and its paraphrases, the fact that this DET is generally optional and in this quite different from other Determiners in Spanish, and the lack of modification by Adjectives is to assume that the _el_ which sometimes appears before fact nominalizations and their paraphrases is not a Determiner. It is, in fact, introduced transformationally. We will return to this formative in Section 5 when the transformation which inserts it is considered.

The need for Pro-Nouns in the nominalizations treated here is also the result of the syntactic features of Verbs in regard to Objects. There are some Verbs which are transitive and must be marked in the lexicon as requiring an Object, e.g. _considera_

(135) El hombre considera la propuesta

is grammatical but (136) is not.

(136) *El hombre considera.

Other Verbs are intransitive and never have a direct Object, e.g. _anda_. Still others are transitive with a deletable object, e.g. _escribe_. Both (137) and (138) are grammatical.

(137) El muchacho escribe la carta.

(138) El muchacho escribe.

The interpretation of (138), however, does involve an Object, although a very general one, i.e. the boy is writing something. In fact, this interpretation would be provided for

(138) if its underlying Phrase-marker contained a deletable Object, i.e. a Pro-Noun. That portion of Phrase-marker (122) which provides the structure of the embedded sentence is the appropriate Phrase-marker for (138).

Considering Verbs like *escribe* at the level of deep structure, then, they are transitive. They differ from Verbs like *considera* in that the latter are marked in the lexicon as never admitting a Pro-Noun Object, while the former may. Thus, we have nominalizations like (70) and (71) and like

(139) *El considerar el hombre la propuesta* me preocupa.

but a nominalization like that contained in (140) is ungrammatical.

(140) **El considerar el hombre* me preocupa.

In order to correctly generate all nominalizations and their paraphrases, as well as simple, declarative sentences, the lexical entries for Verbs must specify not only presence or absence of the syntactic feature [+ ___NP], indicating whether or not a Verb occurs with an Object, e.g. *considera* and *anda*, respectively, but when the feature is [+ ___NP], the further feature of [+ ___Pro] or [- ___Pro] must be specified, e.g. for *escribe* and *considera* respectively. Although such specification for [Pro] is necessary in order to insure that only grammatical nominalizations are generated, the result is only observationally, not descriptively, adequate.

A second question which must be discussed concerning Phrase-marker (122) involves the development of AUX. It was pointed out in Chapter II, Section 3, that nominalized Verbs differ from main Verbs in that the former are neutral as to Tense, while the latter must be either PRES or PAST. This apparent irrelevance of Tense is true not only for fact nominalizations but also for manner and abstract noun nominalizations.

Tense, however, is relevant for paraphrases (77) and (78) of the fact nominalization. That is,

(141) Que el muchacho haya escrito me sorprende.

(142) El que el muchacho haya escrito me sorprende.

are grammatical and contrast in meaning with (77)-(78). (141) and (142), however, are also valid paraphrases of the fact nominalization (70). It appears, therefore, that fact nominalizations are all two ways ambiguous, having an interpretation of either present or past time. The same would be true for manner and abstract noun nominalizations.[11]

There is, however, another possible solution. Nominalizations may be, in their deep structure, unspecified for Tense, i.e. they may be truly neutral, i.e. vague, rather than ambiguous. To account for this would require a change in the rules of the base component, and such changes should be well supported by evidence from more than one language, given the assumptions about the universality of the base rules. If we accept the assumption that Tense is truly irrelevant, and not ambiguous, in nominalizations, the node T must be eliminated from their deep structure.

There are several ways to change the phrase structure rules (28) which would account for these facts about nominalizations. These changes involve rules (28i) and (28iii), which are repeated here as (143) and (144).

(143) $S \rightarrow \#\ (PRE)\ (NEG)\ NP\ AUX\ VP\ \#$

(144) $AUX \rightarrow T\ (M)$

First, AUX could be developed as an obligatory choice of either T or the non-terminal symbol NOM, i.e. Nominalization, which would be spelled out by morphophonemic rules as -r in the case of fact and manner nominalizations or as -ción, -miento, etc. for abstract noun nominalizations in just the way morphophonemic rules must spell out PRES and PAST. That is, (144) could be replaced by

(145) $$AUX \rightarrow \left\{ \begin{matrix} T \\ NOM \end{matrix} \right\} (M)$$

This, however, will result in the generation of an infinite number of ungrammatical sentences, for T is obligatorily present in all matrix sentences and would be obligatorily absent in nominalizations if we assume they are vague, rather than ambiguous, as to Tense. Since phrase structure rules are context-free, there is no way of specifying in which contexts AUX must be developed as T and in which it must be developed as NOM. Changing rule (144) in this way would also complicate the transformation which provides affixes for nominalized verbs as we shall see below. In order to avoid ungrammatical sentences, the transformations in a grammar containing (145) would have to be formulated so as to block further development of such deep structures.

How do we choose between rule (145) and the original rule (28iii)? That is, how can we determine whether fact nominalizations are vague or ambiguous as to Tense? That set of base rules which leads to the simplest grammar is always to be preferred, but until we have written an entire grammar, we cannot make a definitive decision as to which set will ultimately be simpler. If we consider nominalizations as ambiguous, i.e. if we retain (28iii), there will be fewer blocking restrictions on later transformational rules.

An additional factor in support of retaining rule (28iii) is the generation of Time Adverbs.[12] There is obviously a relationship between the Tense chosen under AUX and the Time Adverb which may occur in a Sentence, e.g. ahora occurs with PRES, ayer with PAST, so (146) and (147) are grammatical while (148) and (149) are not.

(146) La mujer toca la guitarra ahora.

(147) La mujer tocó la guitarra ayer.

(148) *La mujer tocó la guitarra ahora.

(149) *La mujer toca la guitarra ayer.

On the basis of these co-occurrence restrictions, it is very likely that the grammar will contain a selectional rule which assigns the Tense value of AUX to the node from which Time Adverbs are developed. Since such Adverbs occur in fact nominalizations, as shown in (150) and (151), there must be a specification for Tense in the Phrase-marker which underlies these nominalizations.

(150) el tocar la mujer la guitarra ahora...

(151) el tocar la mujer la guitarra ayer...

Because of the occurrence of Time Adverbs and because of the fact that the grammar will apparently be simpler if (28iii) is retained, we accept the interpretation of ambiguity for fact nominalizations in this study. The underlying Phrase-marker in (122), therefore, represents only one deep structure for sentence (70). The other is identical, except that T dominates PAST instead of PRES.

Note that by using rule (28iii) rather than (145) we also retain the same deep structure for the fact nominalization and the strings which we have been considering its paraphrases. If (145) were utilized, this would not be the case, for the fact nominalization would have an underlying

Phrase-marker in which AUX dominated NOM, while in the sentences (77), (78), (141), and (142) AUX would dominate T, and there would be no paraphrases of (70).

In addition to accounting for Object deletions, ambiguity regarding Tense, limitation of the DET, and the semantic interpretation of fact nominalizations, the underlying Phrase-marker (122) receives further support from the fact that it permits the formulation of general and well-motivated transformations which lead from the deep structure to the surface structure of fact nominalizations and their paraphrases.

5. Transformations

The transformations which follow and which apply to the Phrase-marker (122) serve primarily to reduce the amount of structure in the strings which eventually are generated from the deep structure represented by that Phrase-marker. This effect of transformations has been recognized for some time. For example, Lees (1966, p. xxxvii) states:

> It is most interesting to note how the successive application of T-rules to an underlying tree with many echelons of branching gradually but inevitably transforms it into an output tree with few echelons of IC structure but much multinary branching.

The first rule to apply to (122) increases the multinary branching but does not reduce the amount of structure. This obligatory rule, (152), is well motivated in Spanish; it inserts *que* between a Noun and a following S and may be formulated as follows:

(152) X N S Y
1 2 3 4 ⇒
1 2+que 3 4

Motivation beyond the nominalization and paraphrases being considered here results from such Spanish sentences as

(153) Su deseo que Juan gaste el dinero es malo.

We assume here that *su deseo* is a concrete NP derived from

(154) el lo desea

which in turn has the underlying structure

(155) el desea lo

In (155), *lo* is a Pro-form which is dominated by N and, therefore, (153) meets the structural condition of (152).[13]

Many similar sentences can be cited to justify rule (152), but the following may seem to be a counter-example.

(156) Quiero comer.

Note, however, sentence (157).

(157) Quiero que la niña coma.

The matrix S underlying both (156) and (157) contains the string Yo-quiero-lo-S, but in (156) the Subject-of the embedded S is identical to that of the matrix S, while in (157) it is different. These facts suggest that either we complicate rule (152) by restricting its application to those instances where the Subject-of the sentence in which N occurs is different from the Subject-of the embedded S, or that we allow (152) to operate as stated and later remove que when both Subjects are identical. Because the former would involve a more complex structural condition for (152) as well as a statement of the restriction and a resulting loss of generality, it is assumed here that the second suggestion will eventually lead to a simpler grammar. This assumption may be incorrect, of course, but a change in rule (152) of the type proposed would not affect its applicability in the generation of fact nominalizations and their paraphrases.

Note here that the transformationally introduced que in rule (152) is invariable in form. It is a conjunction and occurs only before an embedded Sentence which is a Complement. In Spanish there is another form que which is a relative pronoun and may occur also as quien, quienes, el cual, la cual, los cuales, or las cuales.[14] The latter are developed from an underlying WH followed by a Determiner as discussed in Chapter V.

As an example, consider the strings (158) and (159).

(158) el deseo que Juan venga...

(159) el deseo que Juan te comunicó...

The source of *que* in the two strings is different. Thus, in (158), *Juan venga* is a Complement of the underlying Verb *desea*, and the *que* which appears in the surface structure is inserted by rule (152) following the Pro-Noun Object-of *desea* in the underlying structure. On the other hand, *que Juan te comunicó* is a Relative Clause in (159) and the *que* there is the morphophonemic development of an underlying constituent ART which contains WH.

Recall rule (60), concerning Relative Clauses, which reorders the sequence Sentence + Noun to Noun + Sentence. Rule (152) must precede rule (60) in order to avoid the incorrect introduction of the conjunction *que* in strings consisting of a Noun followed by an embedded Sentence which is a Relative Clause.

The next transformation to apply to Phrase-marker (122) does in fact simplify structure. This rule obligatorily deletes any Pro-Noun which precedes the conjunction *que* + S. The need for such a rule is clear from the ungrammaticality of strings such as

(160) *Su deseo lo que Juan gaste el dinero es malo.

(161) *Quiero lo que la niña coma la manzana.

In addition, as we have seen above, the Pro-Noun does not occur in the surface structure of nominalizations and their paraphrases. This deletion rule is as follows.

(162)
$$\begin{array}{llllll} X & [\ [\ +\ \text{Pro}\ ]\ ]_N & \text{que} & S & Y & \\ 1 & 2 & 3 & 4 & 5 & \Rightarrow \\ 1 & \emptyset & 3 & 4 & 5 & \end{array}$$

Application of this rule results in the occurrence of the structure que + S which is found in the surface structure of the paraphrases (77) and (86).

Before rule (162) can be applied, however, the Subject-Verb agreement transformation (50) must operate in order to preserve agreement in number of the Subject and Main Verb of the matrix sentence in Phrase-marker (122).

While the Pro-deletion rule (162) is obligatory, another, optional rule is necessary to delete the Pro-Noun Object of the embedded S in (122). If it is indeed the case that [+ Pro] is a universal feature with the property of free deletability for Nouns, it may well be that there is a universal optional transformation which effects such deletion. This rule is quite general in Spanish, applying to Subject Nouns, as in sentence (123), as well as Objects, and the following simple formulation is apparently adequate for those aspects of Spanish being considered here.

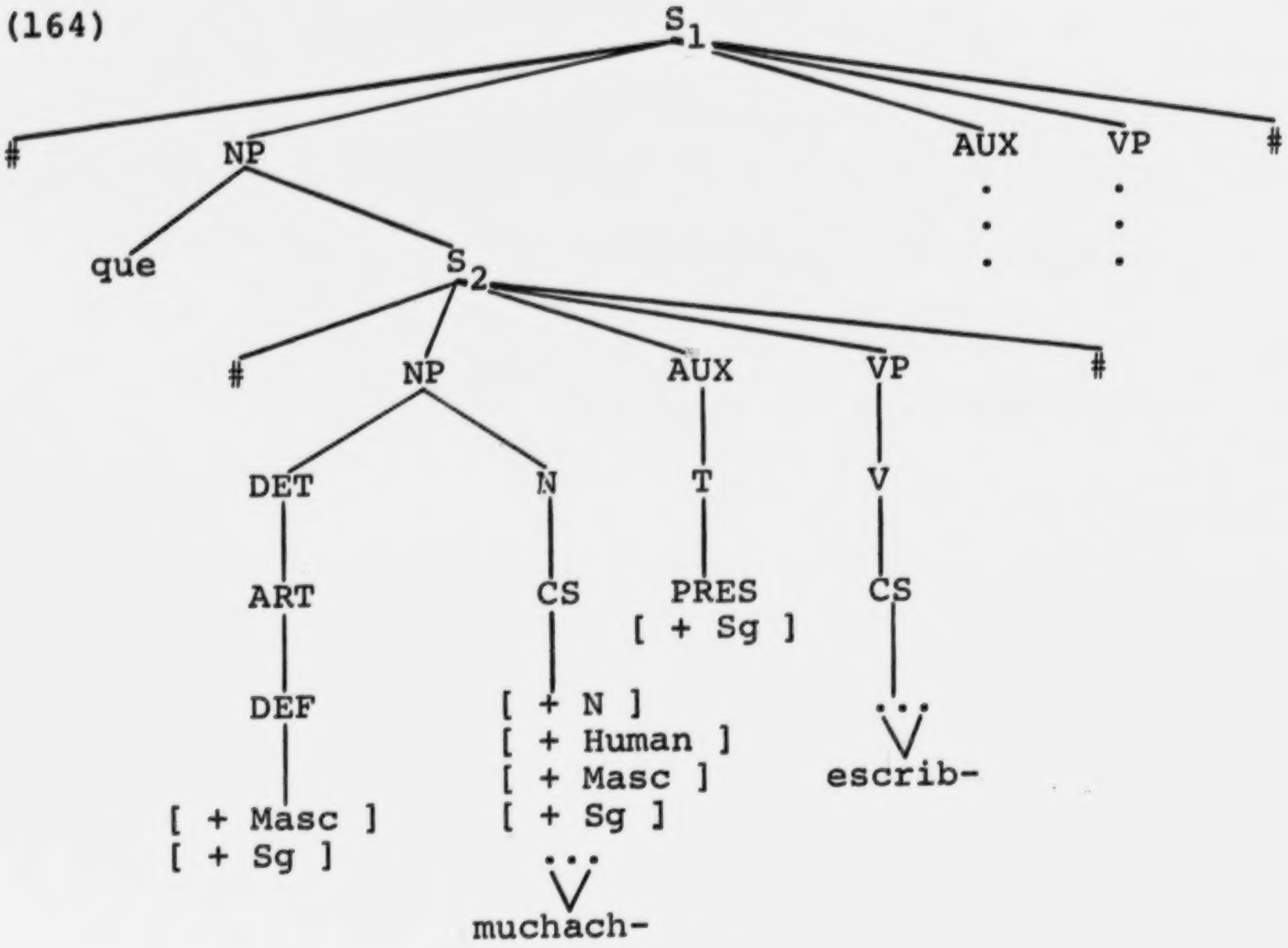
(163)
$$\begin{array}{llll} X & [\ [\ +\ \text{Pro}\ ]\ ]_N & Y & \\ 1 & 2 & 3 & \Rightarrow \\ 1 & \emptyset & 3 & \end{array}$$

Note that rule (163), by convention, will eliminate not only the node N but also any node which dominates only this N, i.e. in Phrase-marker (122) the node NP will also be deleted. This convention for transformationally derived Phrase-markers is stated by Rosenbaum and Lochak as follows:

> In the event that some constituent X is the sole daughter of some constituent Y and the deletion X is defined, then Y as well is deleted. (1966, p. 24)

The derived Phrase-marker which results from the application of transformations (152), (162), and (163), as well as (50) and (51), to the earlier derived Phrase-marker of (122) is given in (164).

(164)


S1
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NP
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AUX
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DET
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ART
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PRES
[+ Sg]
CS
DEF
[+ N]
[+ Human]
[+ Masc]
[+ Sg]
escrib-
[+ Masc]
[+ Sg]
muchach-

If, at this point, only the Affix-Stem reordering transformation (52) applied to this Phrase-marker, and it served as the input to the morphophonemic rules, the resulting sentence would be the paraphrase (77).

In order to generate the fact nominalization, an optional deletion transformation must apply now. This rule meets the second condition on deletability, namely, a terminal symbol, *que*, is specified in the structural index. Recall that when *que* occurs, the Verb of the embedded S is inflected; if *que* does not appear in the surface structure, the Verb is not inflected and occurs as an infinitive. Thus, the rule which deletes *que* also deletes T and replaces it by a symbol which will be developed by the morphophonemic rules as -*r*. This non-terminal symbol is represented here as NOM.

(165)	W	[que [	X	T	$Y\ ]_S\ ]_{NP}$	Z
	1	2	3	4	5	6 ⇒
	1	Ø	3	NOM	5	6

Rule (165) applied to Phrase-marker (164) results in the string el+muchacho-NOM-escrib, which is a representation of the structure W-X-NOM-Y-Z where W is null, Y is the VP of the embedded Sentence, and Z is the AUX and VP of the matrix Sentence.

At this point we must account for the fact that the fact nominalization and its paraphrases sometimes occur with the preposed formative *el*. This *el* is optional in all cases except when the Subject of the embedded S is not a Pro-Noun, i.e. when the Subject has not been deleted by rule (163). If (163) has not applied, *el* is obligatory if rule (165) has applied. If not, *el* is optional. These cases of *el* insertion can be accounted for by one rule which is optional under some conditions and obligatory under another.

(166)
$$\begin{array}{lllllll} \# & [& (\underline{que}) & [\ (NP) & VP\ ]_S\ ]_{NP} & X & \\ 1 & & 2 & 3 & 4 & 5 & \Rightarrow \\ 1 & \underline{el} & 2 & 3 & 4 & 5 & \end{array}$$

CONDITION: if $2 = \emptyset$ and $3 \neq \emptyset$, the rule is obligatory; otherwise it is optional.

Note that this rule applies only when the NP occurs in initial position. In sentence (80), for example, the nominalization which follows *el hecho de* is not preceded by *el*, and the sentence would be ungrammatical if it were.

The fact that the Pro-Noun has the unmarked features of masculine gender and singular number would seem to be relevant to the form *el* inserted by rule (166), for *el* is the representation of the masculine, singular DEF DET. As we have shown, however, the *el* which appears with fact nominalizations and their paraphrases is not a DET, for it is not generated by the phrase structure rules. It also differs from the DET el in that the transformationally inserted el is optional in most cases. In effect, then, the form el is syntactically ambiguous, one instance being generated by phrase structure rules, bearing meaning, and contrasting with other Determiners, while the other is generated transformationally, has no semantic interpretation, and does not contrast with similar elements. The situation here is somewhat similar to that of the relative pronoun que, which has a variety of forms, and the invariant conjunction que, where the latter is generated transformationally and the former results from morphophonemic rules applying to the element WH provided by the base rules.

Note that following the application of rule (166) we have reached the surface structure of paraphrase (78).

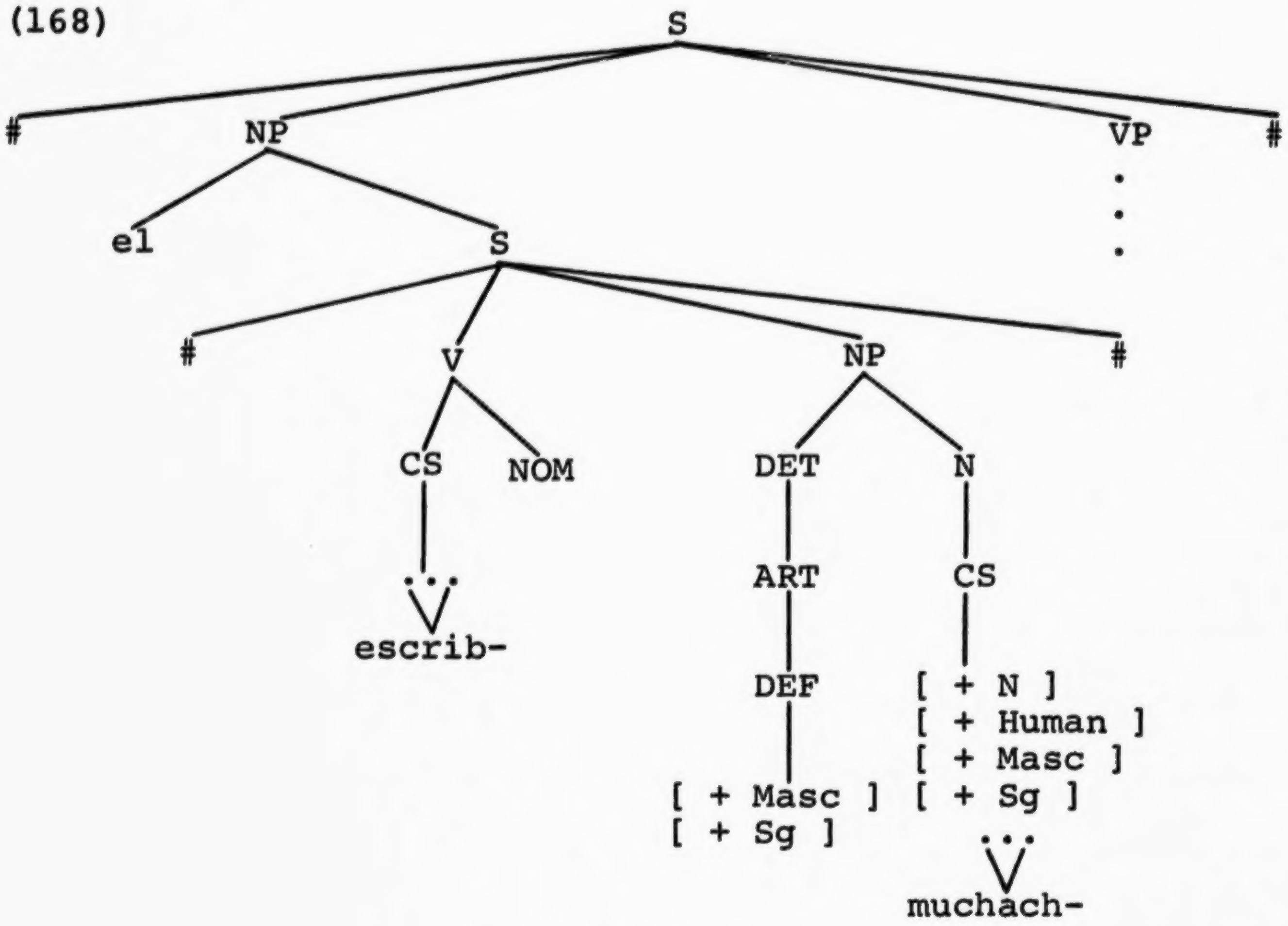
Let us now return to the Subject reordering rule (55). The rule was stated as optional. If it is applied to the Phrase-marker representing paraphrase (77), paraphrase (86) would be generated. If rule (55) were applied to the Phrase-marker which results from the application of (166), paraphrase (87) would be generated. Rule (55) is obligatory, however, if rule (165) has applied to Phrase-marker (164), i.e. if nominalization has occurred. A slight revision in the structural condition of (55) will permit this, and in this way the generalization that the same Subject reordering rule applies to matrix sentences, embedded sentences, and nominalized embedded sentences is retained.[15] Rule (55), then, must be ordered to follow rule (166) and must be revised as rule (167).[16]

$$
(167)\quad
\begin{array}{llllllll}
W & [& NP & AUX & V & & X &]_S & Y \\
1 & & 2 & 3 & 4 & & 5 & & 6 \Rightarrow \\
1 & & \emptyset & 3 & 4 & 2 & 5 & & 6
\end{array}
$$

CONDITION: if $5 \neq \emptyset$, the rule is obligatory; otherwise it is optional.

If at this point, the Affix-Stem reordering transformation (52) is applied, the Phrase-marker given in (168) will represent the surface structure of the nominalization (70).

(168)


S
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[+ N]
[+ Human]
[+ Masc]
[+ Sg]
[+ Masc]
[+ Sg]
muchach-

6. Conclusion

The underlying Phrase-marker and the transformations given in this chapter seem to account for the syntactic and semantic characteristics of the so-called fact nominalization in Spanish. Several sample derivations are presented in an Appendix.

This nominalization has been discussed for English by Lees (1966, p. 64-7) and by Katz and Postal (1964, p. 141-4). The former treatment remains unrevised since its original printing in 1963 and its single rule for the "Gerundive Nominal" is therefore difficult to compare with the set of rules offered here within a more recent framework.

The latter treatment is comparable, but the relevant rules are, for the most part, not formally presented. There are, however, two primary differences between the deep structure given here for the Spanish fact nominalization and that suggested by Katz and Postal for a similar nominalization in English. The first point is that the problem of Tense in nominalizations is not discussed by Katz and Postal. The second difference, a more important one, is that they treat this nominalization as a sentence embedded in a Noun Phrase, the head Noun of which is fact, rather than a Pro-Noun.[17] This results in the description of the English preposed the, equivalent to the Spanish el, as a Definite Determiner and thus fails to account, in a descriptively adequate way, for the limitations on this Determiner.

Treatment of Tense ambiguity and the preposed formative, as well as a Pro-Noun Subject-of the matrix Sentence, as offered here for Spanish, seem to be well motivated, and the situation in English is apparently quite similar. An investigation of a similar deep structure for the English fact nominalization is indicated.

NOTES TO 'CHAPTER IV: THE FACT NOMINALIZATION'

1 Katz and Postal (1964, pp. 141-4).

2 In (77), (78), (79), (82), (83), (86), and (87), the embedded Verb escriba is in the subjunctive mood. While some native speakers agree that the indicative would also be grammatical especially in (77), (78), (86), and (87), we use the subjunctive form which is accepted by all speakers. The syntactic and phonological rules which generate subjunctive forms in the appropriate environments are not well known and in order not to unnecessarily expand our rules to account for this complex phenomenon, we will assume that such rules exist and apply during the generation of strings in which subjunctives occur.

3 An apparent counter-example to this statement is the expression un abrir y cerrar de ojos. This form may not be a fact nominalization at all, but rather one of the types of nominalizations discussed in Chapter VI. At the present time it remains unaccounted for in this paper.

4 Where que me gusta refers to el escribir and not to just una carta.

5 Bien is considered here as morphologically composed of buen- + -mente.

6 The optional -mente deletion transformation is discussed by Stevens (1966, pp. 73-5).

7 It is not clear how number for Nouns is introduced. We assume here that Nouns are entered in the lexicon with an inherent feature [Singular], the value of which is normally α, although it may be specified as + or - if a particular Noun occurs only in one number, e.g. the Pro-Noun in (122) occurs only in the singular. For those Nouns with an α specification for [Singular], we assume that at the time of lexical insertion, the grammar selects either + or - for this feature.

8 In a footnote to their discussion (note 18, p. 151), Katz and Postal admit to 'an uncertainty as to how the constituent Pro is to be generated.' It is suggested here that [+ Pro] is a syntactic feature specified for certain entries in the lexicon and that it is unnecessary to generate a constituent PRO in either

the base or in the transformational rules. An optional strict subcategorization rule, which may well be universal, will introduce the syntactic feature [+ Pro] as part of the complex symbol for any Noun. The lexical insertion transformation will then apply to insert a Pro-Noun which shares the other syntactic features dominated by N. For example, if the CS of a N is developed as [+ Pro] and [+ Human] by the strict subcategorization rules, the lexical entry one, which also contains these syntactic features, will be inserted by the lexical insertion transformation under the CS of the N in question.

9 Postal, in 'On So-Called "Pronouns" in English', suggests that 'the traditional personal pronouns are actually forms of the definite article' (p. 198), or, more accurately, that they are developed from underlying Nouns having the features [+ Pro] and [+ Definite].

10 Note that this assumption may require a reformulation of the gender and number agreement rules for Determiners and Nouns, as well as for the number agreement rule for Subject-Nouns and main Verbs.

11 We assume here that Tense is developed by rule (28iv) only as either Present or Past. If, in fact, it is developed as either of these or as Future, then we would consider all of these nominalizations as three ways ambiguous.

12 Time and Place Adverbials may be generated from Verb Phrase Complements, as indicated by Chomsky (1965, pp. 101-6). They are not explicitly accounted for by the rules given here.

13 Partial justification for deriving su deseo from (155) is found in the fact that the Verb desea requires the subjunctive in an embedded Verb when the Subject-of the latter differs from that of desea itself. The nominalized string su deseo retains this syntactic feature which is generally found only in Verbs.

14 For a discussion of the conditions under which these relative pronouns occur, see Real Academia Española (1959, pp. 313-27).

15 Note that in spite of the fact that the revised version of (55) no longer occurs well within the set of transformational rules, we still maintain that it must be

considered as a rule of grammar, for its application is obligatory for nominalizations. To limit rule (55) only to nominalizations and to claim there is a second optional rule of performance in all other cases (as discussed in Chapter III) would miss this apparently quite valid generalization about Subject reordering in Spanish.

16 Rule (167), as will be seen below, is also required for the manner and abstract noun nominalizations.

17 They do mention the possibility of Pro-form treatment in a footnote but do not expand on this.

CHAPTER V: THE MANNER NOMINALIZATION

1. Examples

The Spanish manner nominalization is a Noun Phrase composed of an obligatory Determiner and a string which is generated from an embedded Sentence. Like the fact nominalization, the surface structure of this Sentence contains an initial Verb in the form of an infinitive.

At the surface level, the most obvious difference between the manner nominalization and the fact nominalization is that the Subject-of the Sentence embedded in the former is always preceded by the form de. The following sentences contain typical manner nominalizations.

(169) El tocar es agradable.

(170) El tocar de la mujer es agradable.

(171) Este tocar de la mujer es agradable.

(172) Su tocar es agradable.

(173) Los tocares de la mujer son agradables.

(174) El tocar perfecto de la mujer es agradable.

(175) El perfecto tocar de la mujer es agradable.

The following semantic and syntactic characteristics of manner nominalizations must be accounted for by the Phrase-markers which underlie them and the transformational rules which result in their surface structures.

2. Semantic Characteristics

The semantic interpretation of the nominalizations in sentences (170)-(175) contains the reading "the manner/way of playing".

The paraphrases of these nominalizations contain, in their surface structure, a formative which has a reading "manner/way". For example, the paraphrase of sentence (170) is:

(176) El modo en que la mujer toca es agradable.

In addition, Subject reordering in the embedded Sentence, as effected by transformation (167), yields the paraphrase:

(177) El modo en que toca la mujer es agradable.

The paraphrase relationship between (170) and the sentences given here indicates that all of these sentences have the same deep structure. The fact that the sentences share many syntactic characteristics as well provides even stronger support for a grammar which generates (170), (176), and (177) from a single underlying Phrase-marker.

3. Syntactic Characteristics

The syntactic characteristics of manner nominalizations and their paraphrases, as indicated by their surface structure, involve: (1) the Determiner, (2) the Verb, (3) the elements PRE and NEG, (4) the Subject Noun Phrase, and (5) the Object Noun Phrase.

3.1. The Determiner

Unlike the fact nominalization, in which the Determiner is limited to el, the manner nominalization occurs with a variety of contrasting Determiners. These include the Definite, Demonstrative, and Possessive Determiners, as shown by sentences (170)-(172). In addition, the Determiner of the manner nominalization, while always masculine, may be plural, as in sentence (173).

With the manner nominalization, the occurrence of a Determiner is obligatory. Thus, (178) is ungrammatical.

(178) *Tocar de la mujer es agradable.

Note that while sentence (169) is ambiguous as to fact or manner interpretation, (179) is interpretable only as a fact nominalization.

(179) Tocar es agradable.

This supports the observation that a Determiner is always obligatory with manner nominalizations, i.e. the ungrammaticality of (178) is not merely the result of the presence of a Subject Noun Phrase, as was the case with the fact nominalization discussed in the last chapter.

The grammaticality of several Determiners, as well as their obligatory status, is the same for the paraphrases of the manner nominalization. That is, sentences (180) and (181) are grammatical, but (182) is not.

(180) Este modo en que la mujer toca es agradable.

(181) _Los modos en que la mujer toca_ son agradables.

(182) *_Modo en que la mujer toca_ es agradable.

There is a restriction on the occurrence of the Possessive in both the manner nominalization and its paraphrases. The Possessive may occur only when the Subject of the embedded Sentence does not otherwise occur in the surface structure. This is ultimately due to the fact that such Possessives are derived from _de_ plus the underlying Subject, which in (172) is a Pro-Noun. Thus, while (172) is grammatical, (183) is not.

(183) *_Su tocar de la mujer_ es agradable.

Parallelly, (184) is grammatical, whereas (185) is ungrammatical.

(184) _Su modo de tocar_ es agradable.

(185) *_Su modo en que la mujer toca_ es agradable.

With respect to the Indefinite Determiner, the manner nominalization and its paraphrases also share the same syntactic feature. Neither is grammatical with this Determiner, i.e.

(186) *_Un tocar de la mujer_ es agradable.

(187) *_Un modo en que la mujer toca_ es agradable.[1]

3.2. The Verb

As in the fact nominalization, the Verb of the embedded Sentence which underlies the manner nominalization always occurs sentence-initially and as an infinitive in the derived nominalization. The following strings, therefore, are ungrammatical.

(188) *el de la mujer tocar...

(189) *el toca de la mujer...

(190) *el toque de la mujer...

(191) *el tocando de la mujer...

These restrictions on the form and position of the embedded Verb do not hold for the paraphrases of the manner nominalization. For example, sentences (176) and (177) are grammatical.

The pre-Verb elements generated by the phrase structure rules (28), i.e. (ha- + -do) (esta- + -ndo), do not occur in manner nominalizations, although they are acceptable in sentences related to the paraphrases of the nominalization. Thus, (192) is ungrammatical, but (193) is grammatical.

(192) *el haber estado tocando de la mujer...

(193) el modo en que la mujer ha estado tocando...

3.3. The PRE and NEG Elements

As was the case with the fact nominalization, manner nominalizations and their paraphrases may not be derived from embedded sentences containing the element PRE. That is, there are no manner nominalizations, nor paraphrases of these, of questions or imperatives. For example,

(194) *_¡El toque usted!_ me sorprende.

(195) *_¡El tocar usted!_ me sorprende.

(196) *_¿El toca usted?_ me sorprende.

(197) *_¿El tocar usted?_ me sorprende.

(198) *_El modo en que ¡toque usted!_ me sorprende.

(199) *_El modo en que ¿toca usted?_ me sorprende.

In addition, strings containing the element NEG are not subject to manner nominalization, as illustrated by the ungrammatical sentence (200).

(200) *_El no tocar de la mujer_ es agradable.

Note that with respect to NEG, the paraphrases have the same restriction as the manner nominalization, i.e.

(201) *_El modo en que la mujer no toca_ es agradable.

3.4. The Subject Noun Phrase

The Subject Noun Phrase of the embedded Sentence which underlies manner nominalizations may be deleted if it is a Pro-Noun. Usually, this results in an ambiguous sentence, with both a manner interpretation and the general reading of the so-called fact nominalization. As an example, see sentence (169).

When the Subject-of the embedded Sentence does occur in the surface structure of a manner nominalization, this Noun Phrase is always preceded by _de_. Thus, while sentence

(170) is unambiguously a manner nominalization, (202) is unambiguously a fact nominalization.

(202) El tocar la mujer es agradable.

No problem of ambiguity of this kind arises for the paraphrases of the manner nominalization since the occurrence of modo determines the manner interpretation, and this is true whether or not the Subject-of the embedded Sentence occurs in the surface structure. Both (176) and (203), therefore, have only a manner reading.

(203) El modo en que toca es agradable.

3.5. The Object Noun Phrase

In the surface structure of a manner nominalization, the Object-of the nominalized Verb never occurs. Even though (204) is grammatical, the nominalized string (205) is not.

(204) La mujer toca el violín.

(205) *el tocar de la mujer el violín...

This obligatory object deletion occurs even with Verbs with otherwise non-deletable objects, e.g.

(206) *Juan gasta.

(207) el gastar de Juan...

Superficially, it may seem that the string (208) is a counter-example in that el violín is apparently the Object-of the nominalized Verb tocar.

(208) el tocar del violín...

Since there is a grammatical sentence (209), in which *el violín* is the Subject, (208) is not a counter-example.

(209) El violín toca.

That is, (209) underlies (208). Of course, it may be that at a deeper level of structure, (210) underlies (209), but the claim that no Object Noun Phrase occurs in the surface structure of manner nominalizations still holds true.

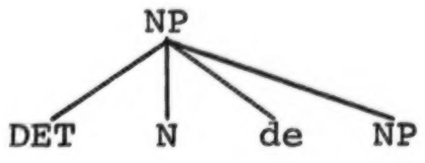
(210) Alguien toca el violín.

Note that Object-deletion, although obligatory for the nominalization, is optional for its paraphrases. Thus, in addition to (176), (211) is also grammatical.

(211) *El modo en que la mujer toca el violín* es agradable.

3.6. Surface Structure of the Manner Nominalization

Evidence concerning modification of the fact nominalization revealed a surface structure consisting of *el* + S. For the manner nominalization, however, the surface structure is different and may be represented by a derived Phrase-marker like the following.



The fact that, at the surface level, the Noun Phrase representing a manner nominalization contains a Noun as head is indicated by three syntactic characteristics: (1) the Determiner is relatively unlimited, just as it is with most forms whose categorization as Nouns is unquestioned; (2) the nominalized Verb may occur in the plural; and (3) modification of the nominalized string is effected by Adjectives, not Adverbs. Sentences (174) and (175) illustrate this point but are not sufficient evidence to prove it since, as was discussed for fact nominalizations, forms like _perfecto_ may be Adverbs as well as Adjectives. The ungrammaticality of (212), however, demonstrates that in (174) and (175) _perfecto_ is indeed an Adjective.

(212) *_El tocar perfectamente de la mujer_ es agradable.

Further support is provided by strings (213) and (214) involving the Adverb _bien_, which is not subject to -_mente_ deletion, and the Adjective _bueno_.

(213) el tocar bueno de la mujer...

(214) *el tocar bien de la mujer...

These three syntactic facts demonstrate that a Noun Phrase which results from a manner nominalization contains a head Noun, unlike the Noun Phrase fact nominalization which does not. The question which must be answered at this point is which element in the nominalized string serves as this Noun head.

The choice can quickly be narrowed down to two strings: the nominalized Verb alone or the entire embedded Sentence, i.e. the entire Noun Phrase with the exception of the initial Determiner. This limitation is due to the fact that the surface structure of all clear cases of Spanish Noun Phrases with Noun heads consists of a Determiner followed immediately by the head Noun or by an Adjective which in turn is followed immediately by the head Noun. We will limit our attention to *tocar* and *tocar de la mujer* as possible head Nouns in the manner nominalization *el tocar de la mujer*.

Recall the rules discussed in Chapter III concerning the development of Adjectives within a Noun Phrase. It was pointed out there that Adjectives immediately follow the head Noun of a Noun Phrase, although an optional, stylistic rule may at times place the Adjective immediately before the head Noun. The position of the Adjective in the surface structure of a Noun Phrase, therefore, indicates the head Noun of that phrase.

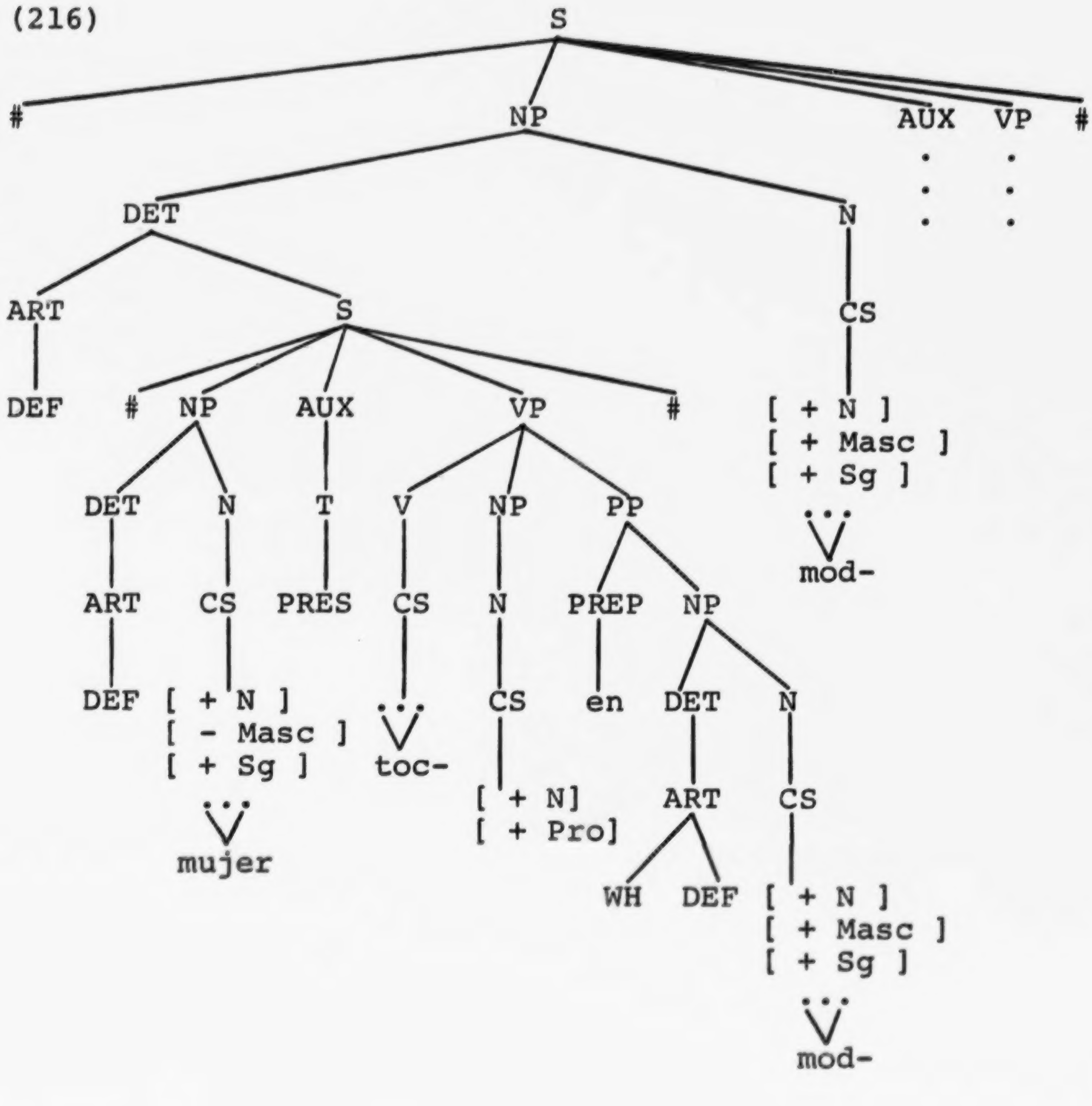
Now, sentences (174) and (175) are examples of an Adjective occurring immediately after and before *tocar*, thus indicating that this form serves as head of the Noun Phrase under discussion. The fact that (215) is ungrammatical then leads to the conclusion that on the surface level tocar is a Noun and that it serves as head of the Noun Phrase el tocar de la mujer.

(215) *el tocar de la mujer perfecto...[2]

4. The Underlying Phrase-Marker

As was the case with the fact nominalization, the semantic identity of the manner nominalization in (170) and the paraphrases (176)-(177), and the substantial number of syntactic characteristics shared by these strings, provide sufficient justification for deriving all of the strings from the same deep structure. The underlying Phrase-marker given in (216) represents the deep structure of sentences (170), (176), and (177).

(216)


S
# NP AUX VP #
DET N
ART S CS
DEF # NP AUX VP #
[+ N]
[+ Masc]
[+ Sg]
mod-
DET N T V NP PP
ART CS PRES CS N PREP NP
DEF
[+ N]
[- Masc]
[+ Sg]
mujer
toc-
CS
[+ N]
[+ Pro]
en
DET N
ART CS
WH DEF
[+ N]
[+ Masc]
[+ Sg]
mod-

Phrase-marker (216), like all underlying Phrase-markers, is generated by the application of the phrase structure rules (28), strict subcategorization rules like (44)-(48), the selectional rule (49), and the lexical insertion transformation, all of which were presented in Chapter III.

For the most part, this Phrase-marker requires no further discussion, but the Subject Noun of the matrix Sentence and the Prepositional Phrase of the embedded Sentence do require some consideration at this point.

First, note that the Noun which occurs in the Subject Noun Phrase of the matrix Sentence is the masculine, singular Noun modo. It is not a Pro-Noun. The fact that a specific Noun occurs here, rather than a general representative of the category Noun, as was the case for the fact nominalization, accounts for several characteristics of the manner nominalization.

For the rules of the semantic component, Phrase-marker (216) provides a Subject with the reading "manner/way". Syntactically, the occurrence of the Noun modo accounts for the wide range of Determiners which are permitted with the manner nominalizations, as well as for the ungrammaticality of the Indefinite Determiner and the element NEG with this nominalization, for these are the result of syntactic features of modo. That is, with respect to the Determiner and NEG, the co-occurrence restrictions of the manner nominalization are the same as those of the Noun modo, and this is accounted for in a simple way by a grammar which includes modo in the Phrase-marker underlying the manner nominalization. As will be shown below the Noun modo is deleted transformationally, but the Determiner remains as the initial element of the nominalization.

Another justification for generating modo as the underlying Subject-of the matrix Sentence for manner nominalizations is the fact that in the Predicate-of the matrix Sentence only those Adjectives can occur which are permissible with modo. So, for example, sentences (176) and (170) are grammatical whereas (217) and (218) are not.

(217) *El modo en que la mujer toca es inútil.

(218) *El tocar de la mujer es inútil.

The Prepositional Phrase in the Verb Phrase of the embedded Sentence of (216) also contributes to the semantic interpretation of the manner nominalization and its paraphrases. Syntactically, this string is necessary for the generation of the paraphrases, and the rules which delete it in the production of the nominalization are motivated by aspects of Spanish other than those under direct consideration here. We will discuss these transformations in detail in the following section.

It has been pointed out by Lees (1966, p. 65) and by Katz and Postal (1964, p. 123) that the Adjectives which modify manner nominalizations at the surface level are identical to those which occur in manner adverbials. Manner adverbials are derived from Prepositional Phrases like that which occurs in (216). The inclusion of this string in the Phrase-marker which underlies manner nominalizations accounts for the set of Adjectives which occur in the surface structure of such nominalizations. In support of this, observe the following strings:

(219) La mujer toca en un modo perfecto.

(220) el tocar perfecto de la mujer...

(221) *La mujer toca en un modo rojo.

(222) *el tocar rojo de la mujer...

Phrase-marker (216) contains several features which are very similar to those discussed for the underlying Phrase-markers of fact nominalizations. Recall that all fact nominalizations are ambiguous as to Tense. The same is apparently true for manner nominalizations, since the inflected Verb of the embedded sentence in paraphrases of this nominalization may be either Present or Past Tense. That is, both (223) and (224) are paraphrases of (225).

(223) el modo en que la mujer toca...

(224) el modo en que la mujer tocó...

(225) el tocar de la mujer...

Thus, Phrase-marker (216) represents only one of the two deep structures which underlie the ambiguous sentence (170).

Unlike the fact nominalization, in which the Object Noun Phrase of the embedded Sentence may dominate a Pro-Noun, the Object Noun Phrase of the embedded Sentence which undergoes the manner nominalization must dominate a Pro-Noun. This is due to the fact that the Object-of the nominalized Verb, in the manner nominalization, never occurs in the surface structure, and, therefore, must be deleted at some point in the generation of such strings. It should be noted that the inclusion of a Pro-Noun in the underlying Phrase-marker makes such deletion possible but it does not go beyond the level of observational adequacy in accounting for the fact that Spanish manner nominalizations never contain an object in their surface structure.[3]

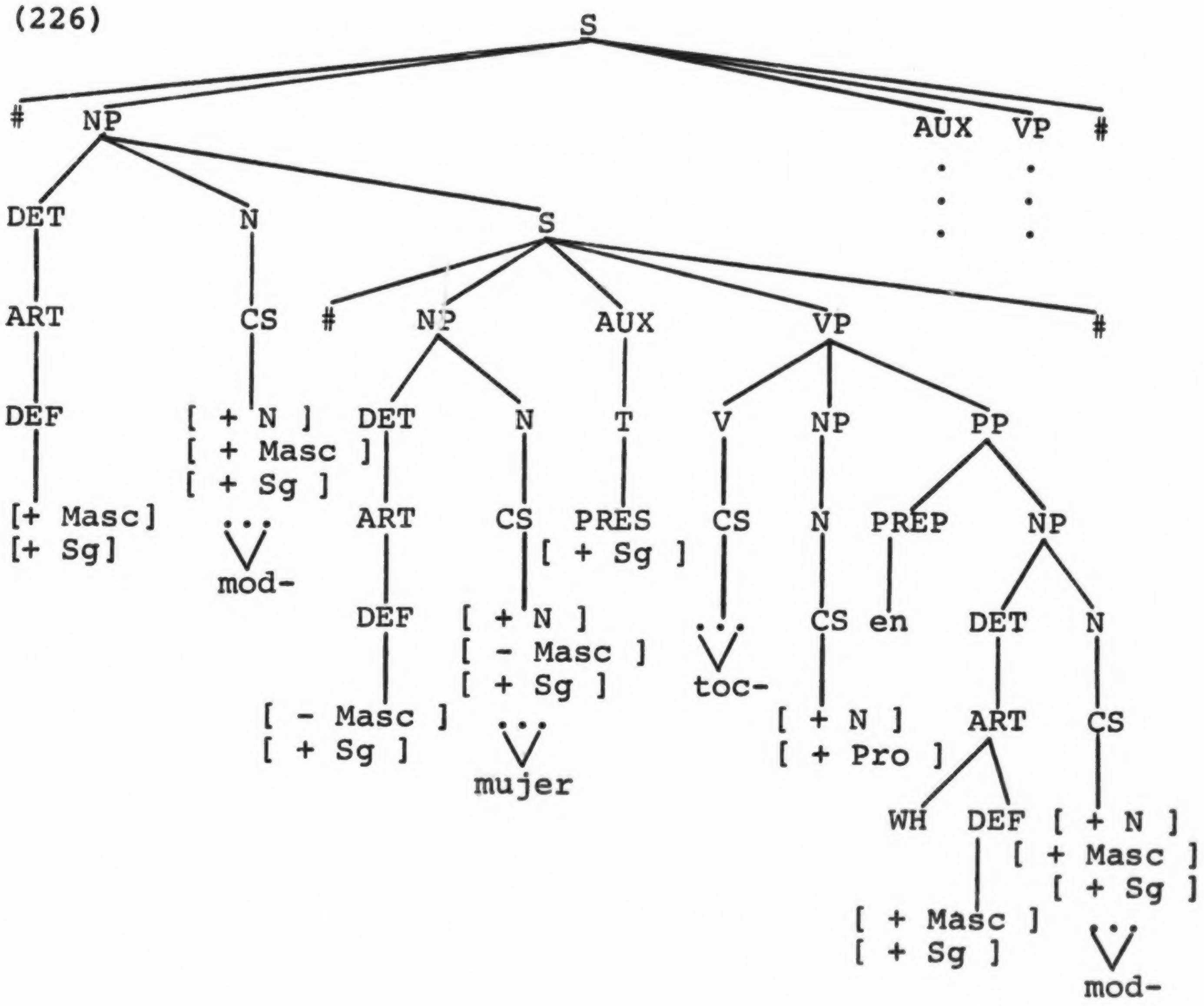
5. Transformations

An investigation of the transformational rules discussed by Katz and Postal for the generation of the manner nominalization in English (1964, pp. 129-32) has shown that an almost identical set of rules is well-motivated for the Spanish manner nominalizations and their paraphrases. In fact, the deep structure of manner nominalizations in both languages is apparently identical, with the exception only of the obligatory Pro-Noun Object of the embedded Sentence in Spanish and, of course, the formatives provided by the lexical insertion transformation.

Initially, transformational rules (50) and (51) are applied to Phrase-marker (216). These transformations effect Determiner-Noun agreement and Subject Noun-Verb agreement respectively. In addition, transformation (60) is applicable to Phrase-marker (216). This rule was formulated so as to place embedded Sentences dominated by DET after the Noun which is directly dominated by the same node Noun Phrase that directly dominates the DET in question, i.e. rule (60) provides for the proper positioning of Relative Clauses and the Adjectives which result from them.

The result of the application of these three transformations is the derived Phrase-marker (226).

(226)


S
#
NP
AUX
VP
#
DET
N
S
ART
CS
#
NP
AUX
VP
#
DEF
[+ N]
[+ Masc]
[+ Sg]
DET
N
T
V
NP
PP
[+ Masc]
[+ Sg]
mod-
ART
CS
PRES
[+ Sg]
CS
N
PREP
NP
DEF
[+ N]
[- Masc]
[+ Sg]
toc-
CS
en
DET
N
[- Masc]
[+ Sg]
mujer
[+ N]
[+ Pro]
ART
CS
WH
DEF
[+ N]
[+ Masc]
[+ Sg]
[+ Masc]
[+ Sg]
mod-

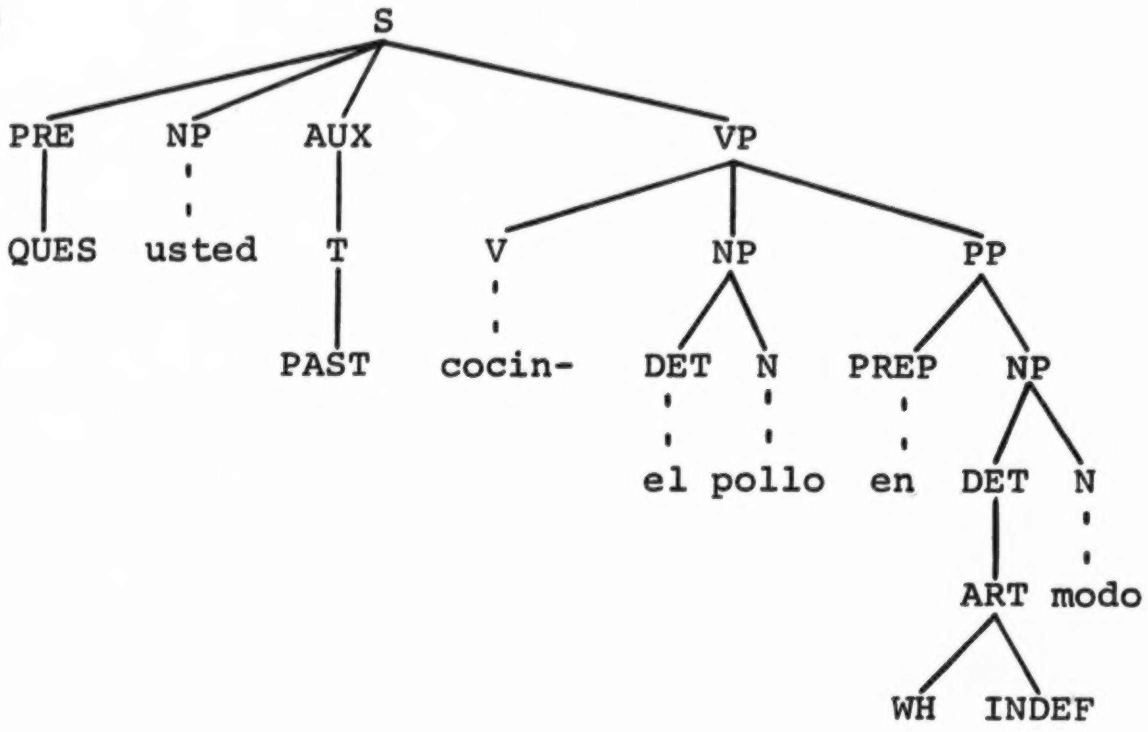
The next transformation, which applies to the derived Phrase-marker (226), takes any Noun Phrase the Determiner of which dominates WH and repositions that Noun Phrase to the left of the Subject Noun Phrase of the Sentence. If the Noun Phrase in question is dominated by Prepositional Phrase, the entire Prepositional Phrase is reordered. Motivation for this transformation comes from both Relative Clauses and questions, which are the only two constructions in which WH occurs. For both, the surface structure of Spanish sentences reveals that the Noun Phrase dominating WH appears clause initially for Relative Clauses and sentence initially for questions.[4]

For example, the so-called question words, como, donde, cuando, are derived from adverbials which are Prepositional Phrases generated by the phrase structure rules (28). Thus, the deep structure for the question

(227) ¿Como cocinó usted el pollo?

is represented by the following simplified Phrase-marker.

(228)


S
PRE
NP
AUX
VP
QUES
usted
T
V
NP
PP
PAST
cocin-
DET
N
PREP
NP
el
pollo
en
DET
N
ART
modo
WH
INDEF

That is, the element to be questioned in (228) is the Noun of the Prepositional Phrase, as shown by (229) which is a paraphrase of (227).

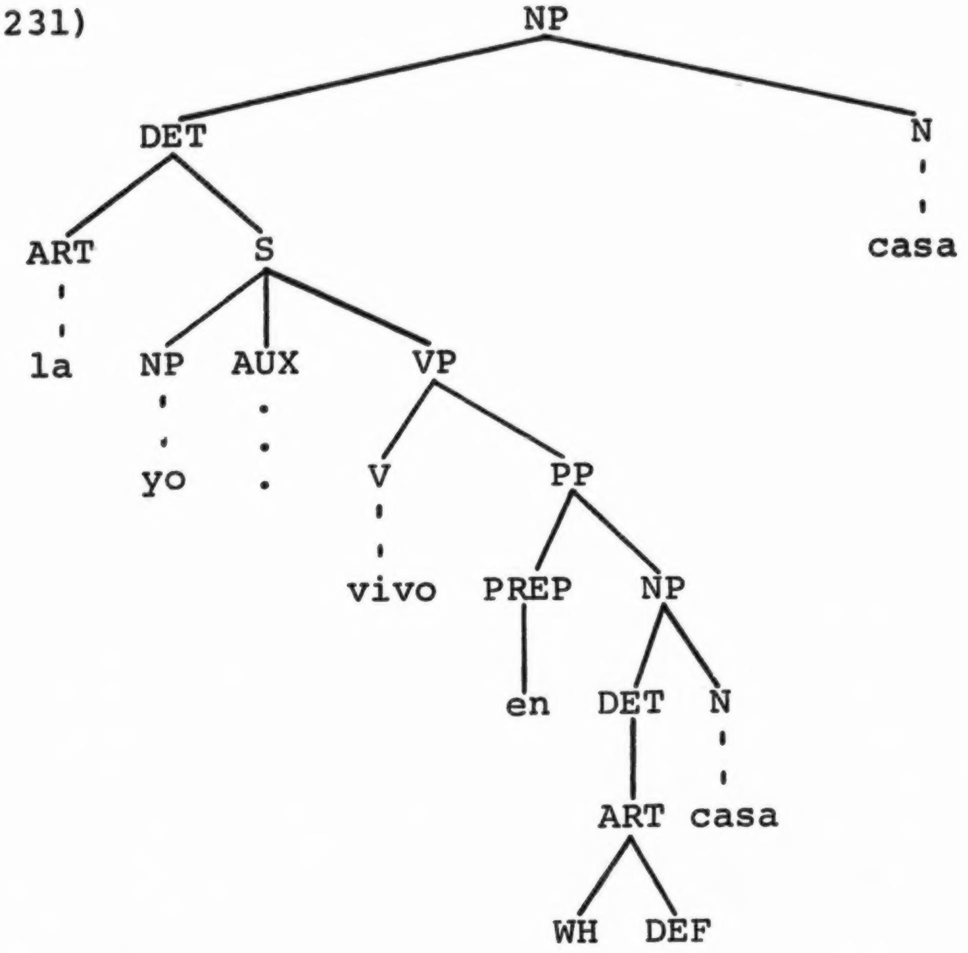
(229) ¿En que modo cocinó usted el pollo?

Note that in the paraphrase, the Prepositional Phrase occurs sentence initially, as does the question word in (227). The situation is similar for questions containing the other question words.

For Relative Clauses, the same reordering occurs. For example, underlying string (230) is Phrase-marker (231).

(230) la casa en que vivo...

(231)

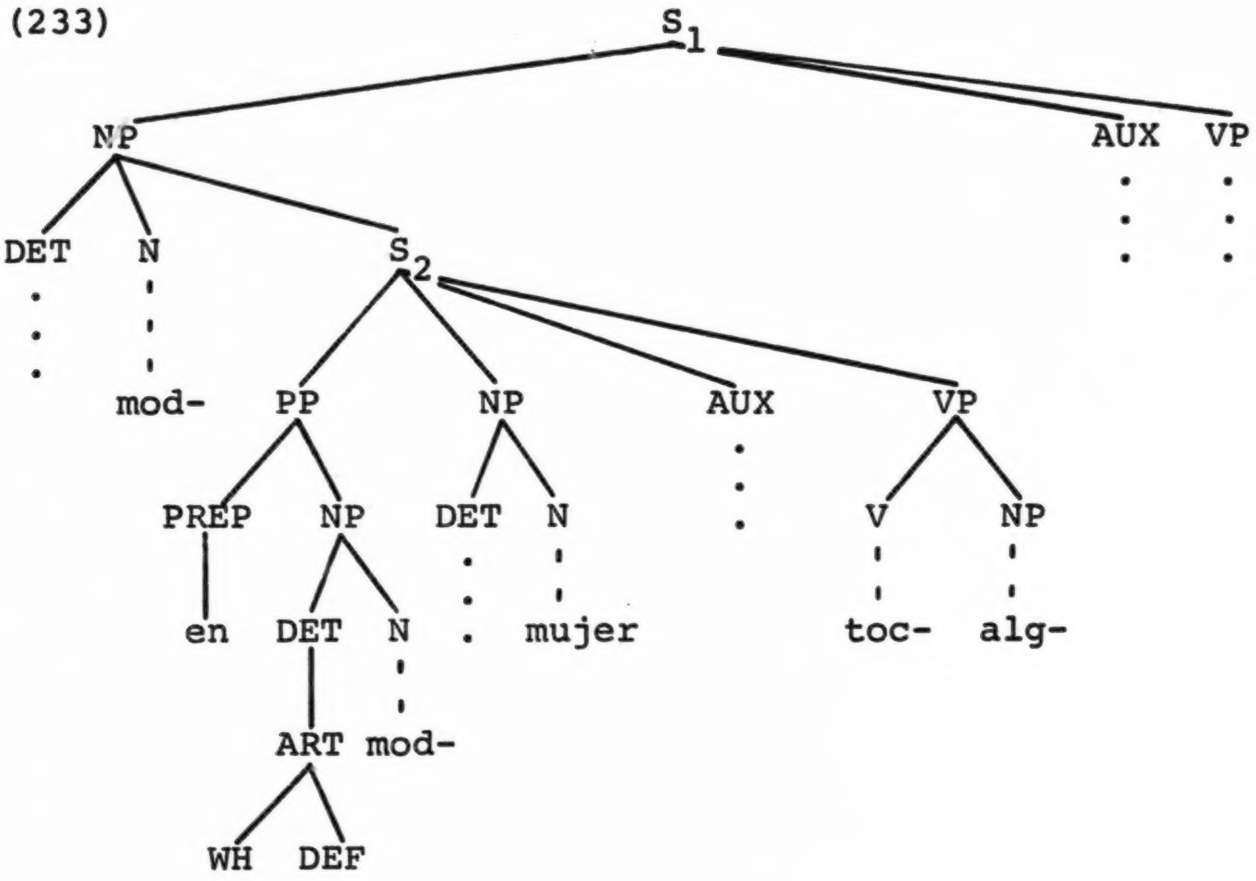

NP
DET
N
casa
ART
S
la
NP
AUX
VP
yo
V
PP
vivo
PREP
NP
en
DET
N
ART
casa
WH
DEF

The transformation which effects this reordering may be formulated as follows:[5]

(232)	#	(PRE)	(NEG)	W	(PREP)	[WH + X Y]$_{NP}$	Z	#
	1	(2)	(3)	4	(5)	6	7	8 ⇒
	1	(2)	(3)	(5)+6+4	0	0	7	8

A highly simplified version of the derived Phrase-marker which results from the application of this obligatory rule to Phrase-marker (226) is given in (233).

(233)


S1
NP
AUX
VP
DET
N
mod-
S2
PP
NP
AUX
VP
PREP
NP
DET
N
V
NP
en
DET
N
mujer
toc-
alg-
ART
mod-
WH
DEF

An identity deletion transformation which applies obligatorily for all Relative Clauses now operates to delete the second occurrence of modo in Phrase-marker (233). This transformation is

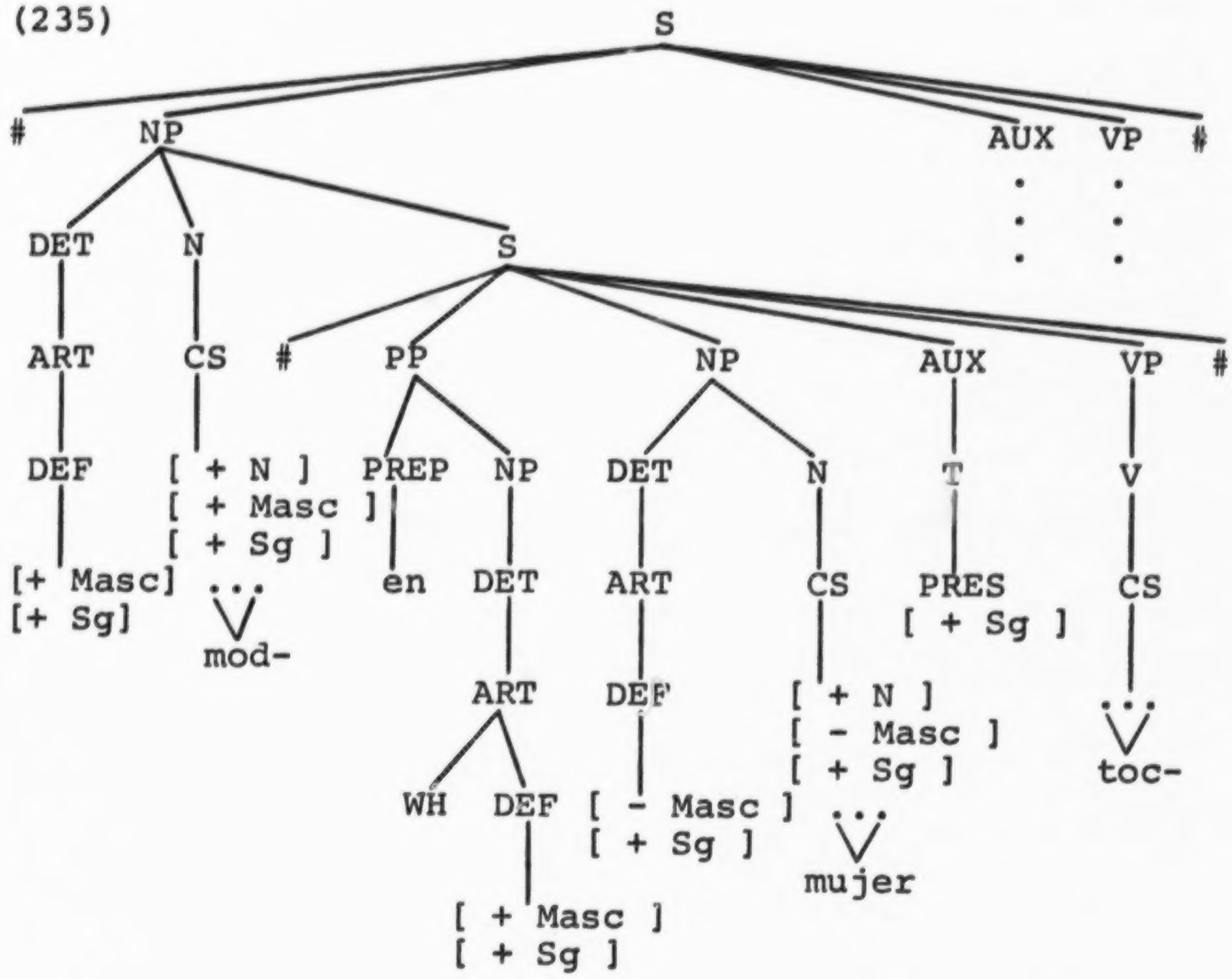
(234)

$$\begin{array}{lllllll} [\ \text{DET} & \text{N} & \text{(PREP)} & [\ \text{WH} + \text{X}\ ]_{\text{ART}} & \text{N} & \text{Y}\ ]_{\text{NP}} & \\ & 1 & 2 & 3 & 4 & 5 & 6 \ \Rightarrow \\ & 1 & 2 & 3 & 4 & \emptyset & 6 \end{array}$$

CONDITION: 2 = 5

If, at this point, rule (163) were applied in order to delete the Pro-Noun Object-of the embedded Sentence, the Phrase-marker (235) would result. Following the application of the Affix-Stem reordering rule (52), the correct surface structure for paraphrase (176) would be produced. If transformation (167) had been applied to reorder the Subject Noun Phrase of the embedded Sentence, the result would be the surface structure for paraphrase (177).

(235)


S
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PREP
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...
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PRES
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...
toc-
WH
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[+ Sg]
...
mujer
[+ Masc]
[+ Sg]

At this point morphophonemic rules apply, spelling out grammatical formatives such as PRES and syntactic features like [+ Masculine] and [+ Singular] according to the labelling of the nodes which dominate them. Included in these phonological rules are those which convert the sequence WH + [+ Masculine, + Singular] $_{\text{DEF}}$ to the string el que and then optionally delete el in some cases. These last rules are quite general in nature, for they apply to any sequence WH + DEF which is dominated by a node NP that does not dominate a Noun as well. Thus, the rule applies in all Relative Clauses and, according to the features for gender and number and the specification for the feature [Human], morphophonemic rules generate the so-called relative pronouns, quien, quienes, el que, la que, los que, las que, el cual, la cual, los cuales, las cuales.

In order to generate the manner nominalization, however, Phrase-marker (235) must undergo several optional transformations. The first of these receives independent justification from the genitive construction.[6] Paraphrase relationship and the identity of syntactic features indicate the desirability of deriving the strings (236) and (237) from the same deep structure.

(236) el violín de la mujer...

(237) el violín que la mujer tiene...

The latter string, like all Relative Clauses contains in its Phrase-marker a sequence WH + DEF preceded by a Noun. With the exception of an intervening Prepostion, the same string occurs in Phrase-marker (235). An optional transformation applying under the structural condition of such a sequence and deleting WH + DEF, as well as any immediately preceding Preposition, will account for both the genitive construction and the form of the manner nominalization. The rule replaces the deleted string by *de* and assigns the grammatical formative GENITIVE to the left of any Noun Phrase which immediately follows the material to be deleted. This rule may be formulated as follows:

$$\text{(238)}\quad \begin{array}{ccccccc} W & N & [\ (\text{PREP}) & [\ WH + X\ ]_{\text{DET}} & NP & Y\ ]_{S} & Z \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \Rightarrow \\ 1 & 2 & \text{de} & \emptyset & \text{GENITIVE} + 5 & 6 & 7 \end{array}$$

The strings resulting from the application of this transformation are

(239) el modo - de - GENITIVE + la mujer - toc + T

(240) el violín - de - GENITIVE + la mujer - tien + T

A rule which seems, at the present time, very specific would delete the Verb *tien* + T in (240) and, following the application of morphophonemic rules which spell out the grammatical formative GENITIVE, string (236) is produced. A simplified version of these rules, omitting their effect when the formative is followed by a pronoun, is that GENITIVE is spelled out as *de*, unless the Noun Phrase which dominates it is directly preceded by *de*, in which case the grammatical formative GENITIVE is deleted.

Recall at this point the optional fact nominalization transformation (165) which replaces the T dominated by V with NOM just in case this V is the main Verb of a Sentence which is a Noun Phrase the initial element of which is que. That is, rule (165) applies to strings like

(241) que el muchacho escriba...

to ultimately yield strings like

(242) el escribir el muchacho...

Rule (165) also deletes que. Now if this rule is divided into two simpler rules as follows, the first rule, with the addition of de to its structural condition, will also apply to manner nominalizations.

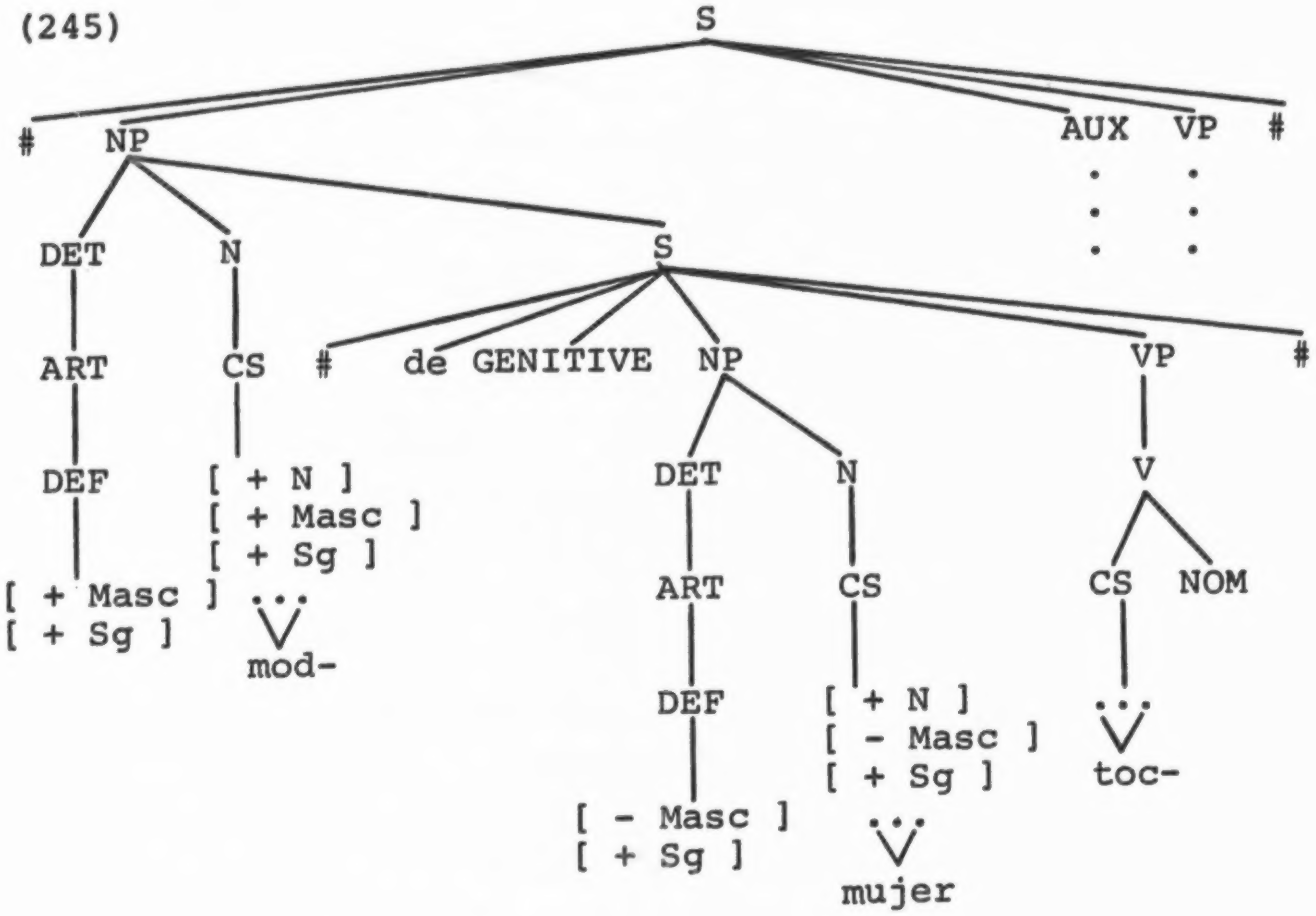
$$(243)\quad \begin{array}{cccccccc} [& W & \left\{\begin{array}{c}\text{que}\\ \text{de}\end{array}\right\} & X & T & Y\ ]_{NP} & Z & \\ & 1 & 2 & 3 & 4 & 5 & 6 & \Rightarrow \\ & 1 & 2 & 3 & \text{NOM} & 5 & 6 & \end{array}$$

$$(244)\quad \begin{array}{ccccccc} W & [\ \text{que} & [\ X & \text{NOM} & Y\ ]_{S}\ ]_{NP} & Z & \\ 1 & 2 & 3 & 4 & 5 & 6 & \Rightarrow \\ 1 & \emptyset & 3 & 4 & 5 & 6 & \end{array}$$

Although rule (243), like (165) which it partially replaces, is optional, rule (244) is obligatory.

After the application of rules (238) and (243) to Phrase-marker (235), as well as the operation of rule (52), the resulting derived Phrase-marker, given in (245), fulfills the structural condition of the Subject reordering rule (167). Rule (167) must be applied, and the result is derived Phrase-marker (246).

(245)


S
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[+ Masc]
[+ Sg]
mod-
DET
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V
ART
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CS
NOM
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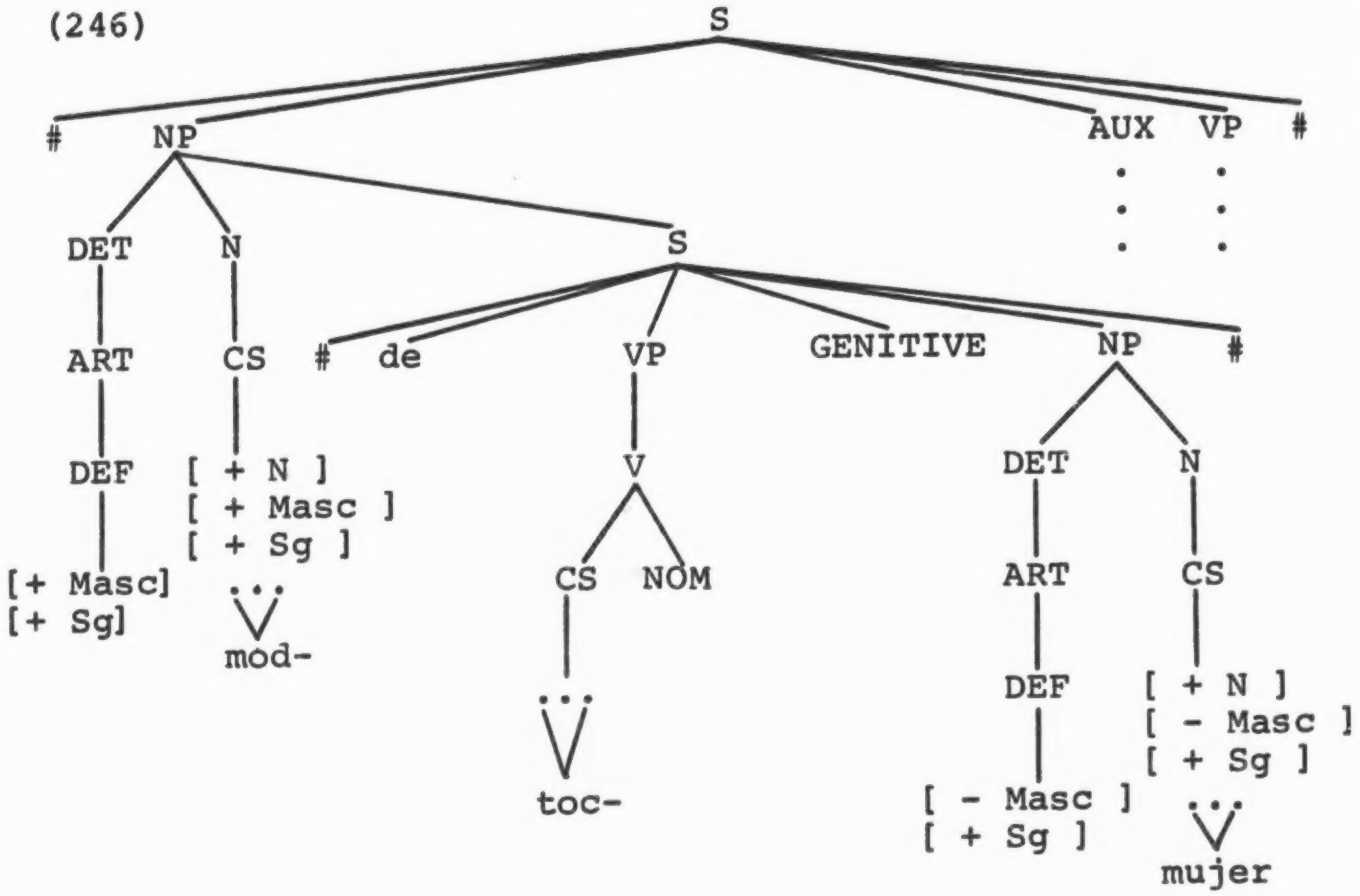
[+ N]
[- Masc]
[+ Sg]
toc-
[- Masc]
[+ Sg]
mujer

(246)


S
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[+ Masc]
[+ Sg]
V
DET
N
[+ Masc]
[+ Sg]
mod-
CS
NOM
ART
CS
toc-
DEF
[+ N]
[- Masc]
[+ Sg]
[- Masc]
[+ Sg]
mujer

Note that Phrase-marker (245) represents the surface structure of the string (247).

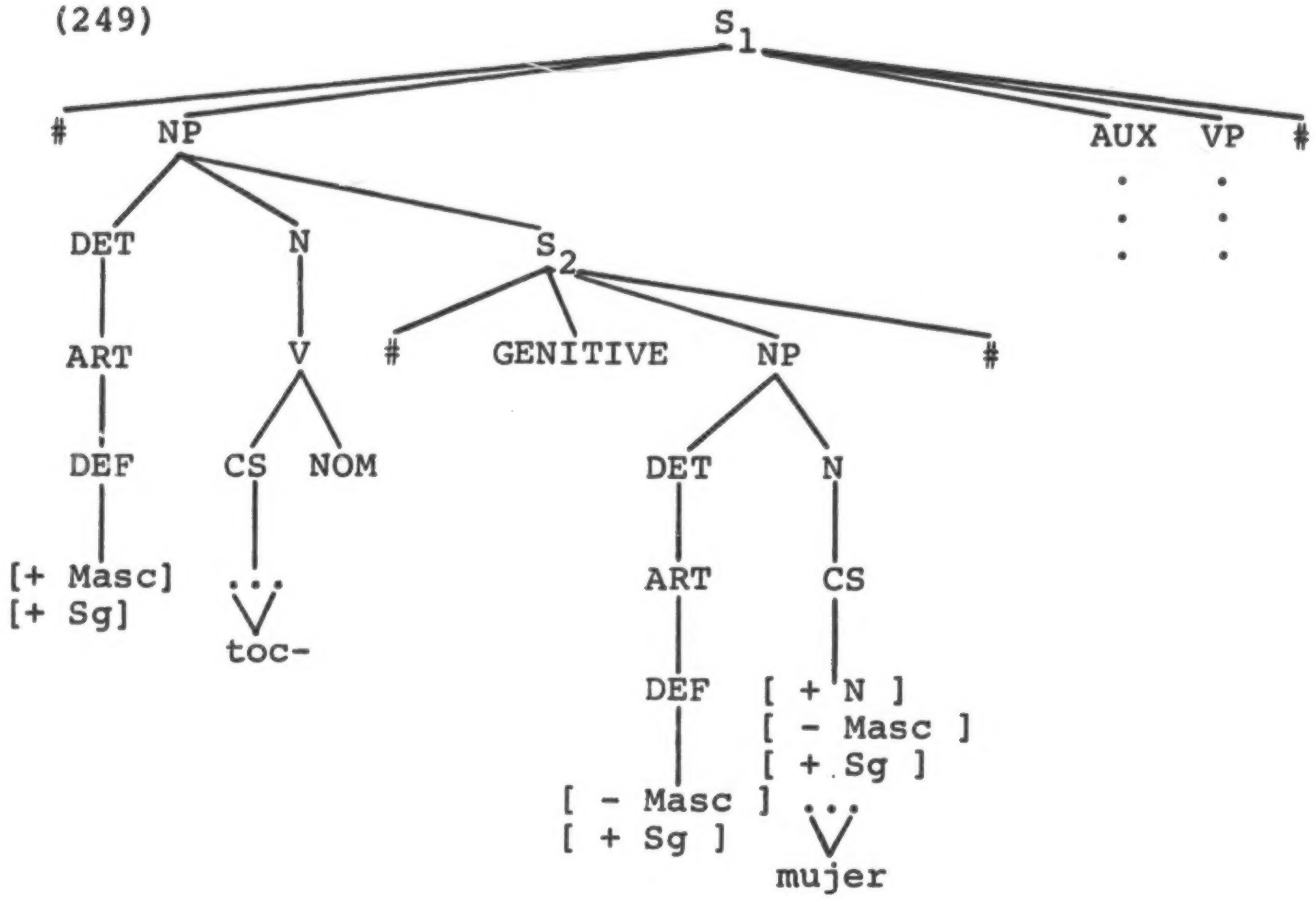
(247) el modo de tocar de la mujer...

The final transformation to apply in the derivation of the manner nominalization is a deletion rule which meets the first condition on deletability, i.e. the rule deletes terminal symbols which appear in the structural condition of the transformation. The rule also repositions the Verb which follows de under the node N which dominates the terminal symbol modo that is deleted. That is,

$$(248)\quad \begin{array}{llllll} X & \text{modo} & \text{de} & V & Y & \\ 1 & 2 & 3 & 4 & 5 & \Rightarrow \\ 1 & 4 & \emptyset & \emptyset & 5 & \end{array}$$

With the application of rule (248) the surface structure of the manner nominalization is attained. This is represented by Phrase-marker (249). Note that this Phrase-marker contains more information than is required by the morphophonemic rules. For example, the node S_2 should be eliminated, since it is not the case that the surface string de la mujer is a Sentence. Ross (1966) proposes a tree-pruning convention which deletes any embedded S that does not branch.[8]

(249)


S1
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GENITIVE
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DEF
CS
NOM
DET
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[+ Masc]
[+ Sg]
...
toc-
ART
CS
DEF
[+ N]
[- Masc]
[+ Sg]
[- Masc]
[+ Sg]
...
mujer

Morphophonemic rules now apply to the surface structure (249) to appropriately spell out the features of gender and number, as well as the grammatical formatives NOM and GENITIVE. As we have seen above, the rule which develops NOM as -_r_ is also required by the fact nominalization and that which develops GENITIVE is needed for other genitive constructions.

NOTES TO 'CHAPTER V: THE MANNER NOMINALIZATION'

1 (187) is grammatical when *un* is the number "one" rather than a Determiner.

2 Recall that *perfecto* in this string is an Adjective, not an Adverb optionally derived from *perfectamente*.

3 It is interesting to note that although manner nominalizations in Spanish and English have almost identical syntactic features below the level of the surface structure, English manner nominalizations are not subject to this obligatory object deletion, e.g. *his rapid drawing of the picture* is given as a grammatical string by Lees (1966, p. 66). In Spanish, the occurrence of an Object requires the use of the paraphrase instead of the manner nominalization.

4 For discussion of the rule and its justification in English, see Katz and Postal (1964, pp. 104-7).

5 In English, a separate rule is used for reordering the Preposition in order to account for the grammaticality of strings such as *the house that I live in*. Since such separation of Preposition and Noun Phrase

is ungrammatical in Spanish, separate rules are not only unnecessary but also misleading.

6 Compare the discussion for English in Katz and Postal (1964, pp. 137-8).

7 There is reason to believe that all transformations will eventually be formulated as a series of transformations each of which performs only one of a limited number of elementary operations, such as deletion, substitution, adjunction. See Rosenbaum and Lochak (1966, pp. 22-7).

8 The node S_2 cannot be eliminated by any transformational rule since the algorithm offered by Rosenbaum and Lochak (1966, p. 24) for constructing transformationally derived phrase-markers provides for deletion of higher level nodes only when all branches dominated by such nodes are deleted or repositioned. In the case of S_2, the Subject Noun Phrase of the embedded S remains and therefore no node dominating this NP can be deleted by a normal transformation.

CHAPTER VI: THE ABSTRACT NOUN NOMINALIZATION

Discussing the differences between the fact and manner nominalizations, Katz and Postal state:

> Another difference between the two productive patterns being considered is that while the first [the fact nominalization] is always formed with the verbal suffix -*ing*, the second [the manner nominalization] is formed with a suffix which has been called NML by Lees and which has a variety of shapes only one of which is -*ing*. The others include null/-*tion*/-*ment*/-*al*, etc... (1964, p. 123)

The implication of this statement is that while the form *destroying* is ambiguous as to a fact or a manner interpretation, the form *destruction* is unambiguously imterpreted in a manner sense only. We have seen that nominals derived through the fact and manner derivational processes in Spanish have the form of an infinitive, e.g. *destruir*, and that parallel to English this form is ambiguous. Similarly, there is also in Spanish a variety of suffixes, such as -*ción*/-*miento*/-*anza*, etc., which result in derived nouns such as *destrucción*.

Although both the fact and manner nominalizations with the suffix -*r* and the derived nouns with suffixes -*ción*/-*miento*/-*anza*, etc. are all abstract, we will follow here the practice of traditional grammarians in labelling only the latter as Abstract Nouns. This practice can be observed from the following statement in Real Academia Española

> Llámanse _concretos_ los nombres que designan seres reales o que nos podemos representar como tales: v. gr. _caballo_, _pan_, _esfinge_; y _abstractos_, los que denotan cualidades de estos seres, v. gr.: _blancura_, _estupidez_, _exactitud_. Los sufijos más frecuentes con que se forman estos últimos son: _ancia_, _encia_, _ción_, _dad_, _dura_, _ez_, _eza_, _ia_, _icia_, _itud_, _or_, _ura_.

In this chapter, we will examine the semantic, syntactic, and phonological features of nouns that are derived from verbs and that have one of the set of suffixes mentioned above. It will be shown that these suffixes also occur with nonabstract nouns, which are therefore homophonous with abstract nouns, and we will demonstrate that these two nominalizations must be distinguished.

Primarily, however, we are concerned here with providing evidence that suggests that the abstract nouns of this type have both fact and manner interpretations and that the treatment of such abstract nouns offered by Lees and Katz and Postal is inadequate.

1. Abstract Nouns vs. Concrete Nouns

All descriptions of Spanish which are sufficiently detailed to include subcategorization of the syntactic category Noun recognize a syntactic feature Abstract which has a value of either plus or minus for all Nouns. Typically, the statement describing these two subclasses relies on semantic and morphological evidence for distinguishing plus from minus Abstract Nouns. As an example, see the quotation above from the Real Academia Española (1959).

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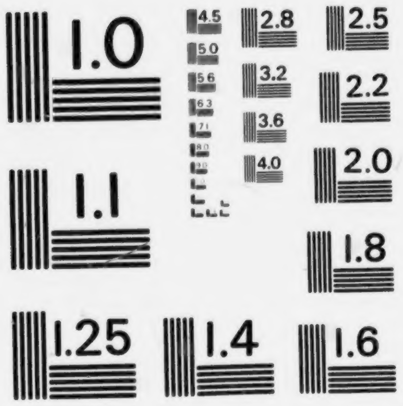
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In addition to semantic and morphological evidence for the subcategorization of Nouns into Abstract and Non-abstract, syntactic evidence based on co-occurrence restrictions is plentiful. For example, the grammar must prohibit the generation of (250) while permitting that of (251).

(250) *Los muchachos pintan *la construcción de la casa por los voluntarios*.

(251) Los muchachos pintan *el edificio*.

Sentence (250) is ungrammatical precisely because the Object is [+ Abstract] and the Verb *pinta* is entered in the lexicon with a specification that its Object Noun must be [- Abstract].[1] Selectional rules such as those discussed by Chomsky (1964, pp. 93-8), and the lexical insertion transformation, will apply to the Phrase-markers underlying (250) and (251). For the former, the presence of a [+ Abstract] Object will prohibit the insertion of *pinta* as the Verb, thereby blocking generation of (250). The Object Noun of (251), however, is [- Abstract] and thus meets the selectional restrictions on *pinta*.[2]

In this study we are concerned only with those Abstract Nouns which are derived from Verbs. In some cases, semantic and morphological factors indicate clearly whether the underlying form is an Adjective or a Verb. Thus, Abstract Nouns derived from Adjectives denote qualities, e.g.

blancura from *blanco*; *estupidez* from *estúpido*; *exactitud* from *exacto*; while Abstract Nouns derived from Verbs contain a reading involving action, e.g. *construcción* from *construye*; *confianza* from *confía*; and *crecimiento* from *crece*. While further research into the deep structure and syntactic features of Verbs and Adjectives may reveal a means for predicting the correct phonological development of nominalized forms, such prediction is not possible at the present time. Currently, the development of the phonological form of nominalizations of this kind is handled by assigning to the lexical entries a phonological feature which indicates the appropriate morphophonemic development which occurs when the form undergoes nominalization. See Chomsky (1964, p. 185) for a brief discussion of this point.

It is possible to state that certain suffixes are used with Abstract Nouns derived from Adjectives, e.g. *dad*, *ura*, and *eza* (of which *ez* is a special case occurring when the derived form would otherwise contain four or more syllables, e.g. *alteza* but *amarillez*, *honradez*). Other suffixes occur with Abstract Nouns derived from Verbs, e.g. *ción*, *miento*, and *anza*. This, however, does not constitute a significant generalization since it adds little to the simplification of the grammar.

Throughout this chapter we shall be concerned only with the generation of those Abstract Nouns which, on the basis of semantic and morphological evidence, are clearly derived from underlying Verbs. The desirability, in fact the necessity, of generating such forms, rather than entering them separately as Nouns in the lexicon, was discussed in Chapter II.

Before proceeding, it should be pointed out that not all Nouns derived from underlying Verbs and containing the suffixes mentioned above are true Abstract Nouns. As Chomsky has pointed out (1964, p. 165; pp. 230-1), true Abstract Nouns are characterized by the features [- Count] and [+ Abstract]. Thus, while _destrucción_ may be considered a true Abstract Noun since it does not occur in the plural, as indicated by (252), _construcción_ represents both a true Abstract Noun and a Nonabstract Noun which has the feature [+ Count], as shown in (253) and (254).

(252) *_Las destrucciones de los voluntarios_ me sorprenden.

(253) _La construcción de escuelas por los voluntarios_ es necesaria.

(254) _Las construcciones_ son muy altas.

Note that _construcción_ in (253) cannot occur in the plural.

(255) *_Las construcciones de escuelas por los voluntarios_ son necesarias.

The form construcción in (253) has only a reading involving action, i.e. it is interpreted as 'the constructing of schools...,' while in (254) construcción has an object sense, "the buildings". Thus, semantically as well as syntactically, it is clear that (253) contains a Noun which is [+ Abstract] while (254) contains a Noun which is [- Abstract].

The following sections present semantic and syntactic evidence which indicates (1) that distinct deep structures and transformations are involved in the generation of the Abstract Nouns and in the generation of the homophonous Nonabstract Nouns and (2) that Abstract Nouns of the kind under consideration here are of two types--one having a general, or factive, interpretation, the other having a manner interpretation. For the latter, we will attempt to present the syntactic similarities and differences between these two Abstract Nouns and the fact and manner nominalizations respectively.

2. Examples

The following sentences illustrate typical nominalizations which contain Abstract Nouns.

(256) La construcción de escuelas es admirable.

(257) La construcción de escuelas por el ejército es dudosa.

(258) *La destrucción de la casa* es necesaria.

(259) *El crecimiento de su hijo* me sorprende.

(260) *La revolución* es el fin de los comunistas.

(261) *La sugestión del director* me sorprende.

(262) *La construcción rápida de esta escuela* le gustó a la gente.

(263) Se describe en el diario *la destrucción excesiva* en ese pueblo.

(264) *El crecimiento lento del muchacho* le preocupa a su madre.

(265) *La clasificación de animales por los científicos* es muy eficiente.

Nonabstract Nouns, also derived from underlying Verbs, are represented in the following sentences.

(266) *Esta sugestión* les gustó a los estudiantes.

(267) El profesor presentó *una buena sugestión* a la comisión.

(268) *Las indiscreciones de la mujer* causaron un divorcio.

(269) *Las andanzas diarias de la señora Gómez* incomodan a su esposo.

(270) *La sugestión del director* me sorprende.

(261) and (270) are homophonous, but, as is shown below, the identity is superficial. (261) means only that 'the director's suggesting (something) / that the director

suggested (something) surprises me,' while (270) means only 'the suggestion that the director made / what the director suggested surprises me.'

3. Semantic Characteristics

Semantic evidence indicates that the abstract nominalizations in examples (256)-(265) are of two types. The nominalizations in (262)-(265) do involve a manner interpretation, and this appears to support the suggestions made by Lees (1966) and Katz and Postal (1964) which were discussed above. For the nominalizations in (256)-(261), however, manner is not involved in the interpretation and this is probably the case for the corresponding English nominalizations as well.

If (256), for example, contained modo in its underlying Phrase-marker, the projection rules would result in an interpretation 'the manner of constructing schools is admirable.' In fact, however, an acceptable interpretation of (256) is 'the constructing of schools is admirable.' Thus, semantically, (256) is much closer to the so-called fact nominalization, treated in Chapter IV, than to the manner nominalization, discussed in Chapter V. A near paraphrase of (256) is (271) which contains a fact nominalization.

(271) El construir escuelas es admirable.

This semantic relationship between fact nominalizations and the Abstract Noun nominalization is also supported when a Subject occurs in the former, as in (272), and an agent in the latter, as in (257).

(272) El construir el ejército escuelas es dudoso.

The sole difference in interpretation between (257) and (272) is apparently parallel to that between an active sentence and its passive counterpart, i.e. the nominalization in (257) seems to have a reading involving passive, while that in (272) is active.

Thus, (257) must have an underlying structure which leads to a factive interpretation. That the nominalization does not have a manner reading as well is indicated by the ungrammaticality of (273).

(273) *El modo en que escuelas son construidas por el ejército es dudoso.[3]

As was discussed in the two preceding chapters, the Adjective which occurs in the Predicate of such a string is determined by the selectional restrictions of the Noun, or Pro-Noun, which is Subject of the underlying matrix Sentence. (273) shows that modo cannot occur in the deep structure of (257), and, therefore, (257) cannot have a manner interpretation. The situation is parallel in (258)-(261).

We shall henceforth refer to Abstract Nouns formed by variable suffixes, as distinct from those formed with -r, and which have a factive interpretation as AN-TI (Abstract Nouns, Type I).

For the examples (262)-(265), manner is involved in the interpretation. (262), for example, may be understood as 'what pleased the people was the way in which the school was constructed, i.e. rapidly.' The situation is parallel in (263) and (264).

A manner interpretation of a nominalized string such as those discussed in Chapter V is due to the presence of a Noun modo as Subject-of the matrix Sentence in which the nominalized string in question is embedded. Syntactic evidence which indicates the occurrence of modo in this position is drawn from the co-occurrence restrictions of the class of Predicate Adjectives which may occur in the Predicate of the matrix Sentence, i.e. no Predicate Adjective may occur which is not compatible with the syntactic and semantic features of modo.

The Predicate Adjectives which occur grammatically in the matrix Sentences into which nominalized strings such as those in (262)-(265) are embedded, however, are not limited to those which can co-occur with modo. For example, dudoso cannot be selected as Predicate Adjective when the Subject Noun is modo.

(274) *Este modo es dudoso.

Yet, sentence (275), containing a nominalization like those in (262)-(265), is grammatical.

(275) La construcción rápida de esta escuela es dudosa.

Therefore, in the underlying Phrase-marker of a sentence like (275), it cannot be the case that the Subject of the matrix Sentence is modo. Thus, it is necessary to account for the occurrence of an element of manner in the semantic interpretation of (262)-(265) and in (275) in a way different from that utilized to account for the manner interpretation of the strings discussed in Chapter V.

It is argued here that the strings (262)-(265) and (275) involve a manner interpretation in only a very limited sense, namely because each contains an Adjective which in the deep structure appeared as part of a Prepositional Phrase the head Noun of which was modo, e.g.

(276) en un modo rápido...

In the course of the derivational history of the embedded string, which eventually undergoes nominalization to an Abstract Noun, the Preposition and the head Noun of the PP in (276) are deleted and the Adjective (which originally modified modo) at the surface level modifies the nominalized Verb, construcción in (275).

Recall that in the manner nominalizations discussed in Chapter V, the deep structure contained two occurrences of modo, one as a Subject-of the matrix Sentence, one as a Noun in the Prepositional Phrase of the embedded Sentence. In the case of sentences (262)-(265) and (275), however, modo occurs only once in the deep structure, i.e. as a Noun in the Prepositional Phrase in the embedded Sentence.

Nominalized strings such as those in (262)-(265) will henceforth be referred to as AN-TII (Abstract Nouns, Type II).

The semantic characteristics of the nominalizations discussed thus far indicate that a manner interpretation is not correct for AN-TI and that the semantic element of manner in AN-TII differs from the semantic interpretation of manner in the manner nominalizations investigated in Chapter V.

The Nonabstract Noun nominalizations represented in examples (266)-(270) are recognized by Katz and Postal (1964, p. 124) to be distinct from the Abstract Noun nominalizations of (256)-(265). There is no question that manner is not involved in the interpretation of such Nonabstract Noun nominalizations. They involve an object, or result, sense. The appropriate reading for the nominalization is just the combined reading of nominalization and the underlying Verb, and in those cases where the Verb is transitive, combined further with an underlying Pro-Noun Object. For example, sugestión has the reading of nominalization of lo sugiere. Semantically, such nominalizations are clearly different from AN-TI and AN-TII. Syntactic processes sometimes result in identical surface structures for an Abstract and a Nonabstract nominalization, as was illustrated in (261) and (270) respectively. Those homophonous strings are repeated here as (277).

(277) La sugestión del director me sorprende.

As was pointed out at the conclusion of Section 2, this string is ambiguous, the two semantic readings involved being either 'the director's suggesting (something) / that the director suggested (something) surprises me' or 'the suggestion that the director made / what the director suggested surprises me.'

Throughout the remainder of this chapter, such Nonabstract Noun nominalizations will be referred to as NN.

4. Syntactic Characteristics

In this section we present a survey of the syntactic similarities and differences of AN-TI, AN-TII, and NN, as well as some comparisons of the syntactic characteristics of AN-TI and AN-TII with the fact and manner nominalizations discussed in Chapters IV and V. These characteristics, as indicated by the surface structures of the nominalized strings, involve: (1) the Determiner, (2) the Verb, (3) the PRE and NEG elements, (4) the Object Noun Phrase,

(5) the Subject Noun Phrase, and (6) modification of the nominalized strings.

4.1. The Determiner

Except under one condition discussed below, an obligatory Determiner precedes NNs, AN-TI, and AN-TII.

For NNs, the Determiner may be Singular or Plural, Definite or Indefinite, Demonstrative, or Possessive, all of which are illustrated in (266)-(270) and in (278).

(278) *Su indiscreción* causó un divorcio.

With regard to the range of permissible Determiners, then, these derived Nonabstract Nouns are similar to the manner nominalizations although, as we have seen, they bear no semantic relationship to one another.

For both types of Abstract Nouns, however, the Determiner always has the form of the Definite Article and is either masculine or feminine depending on the suffix. Examples are given above in (256)-(265). AN-TI and AN-TII never occur with a plural Determiner or an Indefinite Determiner. Thus, (279)-(281) are ungrammatical.

(279) **Una destrucción de la casa* es necesaria.

(280) **Las construcciones de escuelas* son admirables.

(281) **Los crecimientos de muchachos jóvenes* son rápidos.

Note that this limitation on Determiners is the same as that occurring for Determiners preceding the derived fact nominalization, but for both AN-TI and AN-TII it is much more restrictive than for the manner nominalization. AN-TI and AN-TII, however, differ from fact nominalizations in this respect in that the former, but not the latter, may be preceded by a Possessive form. For example, sentence (282) is grammatical.

(282) *Su construcción de escuelas* es admirable.

The Determiner is not obligatory for AN-TI and AN-TII when these nominalizations occur as Object of a sentence and contain neither Subject nor Object expressed in the surface structure of the nominalization itself.[4] For example, (283) and (284) are grammatical, while (285) is not.

(283) Eso causó *sorpresa extrema*.

(284) Lo tomó con *resignación*.

(285) *Eso causó *destrucción de la casa*.

4.2. The Verb

As with the fact and manner nominalizations, the main Verb of the embedded Sentence which underlies the AN-TI, AN-TII, and NN nominalizations under discussion always appears string initially, excluding the Determiner, and with a nominalizing suffix in the derived string. The following, therefore, are ungrammatical.

(286) *la de la casa destrucción...

(287) *de la casa la destrucción...

(288) *el de los muchachos crecimiento...

It should also be noted here the neither the Abstract Noun nor the Nonabstract Noun nominalizations may contain in their surface structure the Verb Phrase initial _ha-_ + _-do_ or _esta_ + _-ndo_. For example, (289) is ungrammatical, but note that the corresponding fact nominalization (290) is grammatical.

(289) *la haber construcción de escuelas por los voluntarios...

(290) el haber construido los voluntarios escuelas...

Concerning these verbal elements, then, AN-TI, AN-TII, and NN nominalizations are similar syntactically to the manner nominalization.

4.3. The PRE and NEG Elements

The nominalizations under discussion may not occur if the underlying sentence contains one of the PRE elements or the NEG element. That is, there are no Abstract or Nonabstract Nouns derived from questions or imperatives or from underlying negative sentences.

(291) *Su notificación causó ¡_el aturdimiento_!

(292) *Me gusta mucho ¿_el crecimiento de esta niña_?

(293) *¡*Esta sugestión del director*! les gustó a los estudiantes.

(294) *¿*Las andanzas diarias de la mujer*? incomodan a su esposo.

(295) **La no construcción de la escuela* me sorprende.

(296) **Las no andanzas diarias de la mujer* incomodan a su esposo.

Note that in regard to the PRE and NEG elements, these Abstract and Nonabstract derived Nouns are more similar in their restrictions concerning the underlying Phrase-marker to the manner nominalization than to the fact nominalization.

4.4. The Object Noun Phrase

The Noun Phrase which functions as the Object of the Sentence underlying AN-TI and AN-TII nominalizations appears in the surface structure of the nominalized string immediately following the nominalized Verb and always preceded by a Preposition.

When the Verb in question requires a specific Preposition, it is that Preposition which occurs in the derived string. For example, the Verb *confía* requires *en* as in (297).

(297) Ellos confían en el dictador.

Sentence (298) illustrates an AN-TI nominalization generated from an embedded Sentence with *confía* as the Verb.

(298) Su confianza en el dictador causó sorpresa.

In those cases where the underlying Verb does not require a Preposition, de precedes the Object Noun Phrase in the derived Abstract Noun nominalizations. This is exemplified in sentences (256)-(258), (262), and (265) above.

Note that the issue of retaining a specific Preposition is not relevant for the manner nominalization discussed in Chapter V. Such nominalizations do not permit any occurrence of any element of the Verb Phrase in the embedded Sentence except for the Verb itself and the Adjective which modifies modo in the Prepositional Phrase, i.e. recall that no Object may occur in manner nominalizations. Thus, retention of a specific Preposition never occurs because of a general process which deletes everything after the Verb.

For fact nominalizations, discussed in Chapter IV, no new Prepositions are introduced (i.e. there is no parallel to the introduction of de as in the Abstract Noun nominalizations) nor is any underlying formative deleted. If a Preposition occurs in the deep structure, it also occurs in the surface structure of the fact nominalization, e.g.

(299) el confiar ellos en el dictador...

If, on the other hand, there is no such Preposition in the deep structure, none appears in the surface structure either, e.g.

(300) Ellos comen una manzana.

(301) el comer ellos una manzana...

It should also be noted that both the AN-TI and AN-TII are syntactically similar to the fact nominalization as concerns presence of an Object in the surface structure of the nominalization. The manner nominalization does not permit the occurrence of an Object at the surface level, whereas both AN-TI and AN-TII do occur with Objects, as is illustrated in the examples cited in this section.

Unlike the Abstract Noun nominalizations, the nominalization which results in a Nonabstract Noun may not have a direct Object in the derived string. That is, while the string

(302) la construcción...

is ambiguous as to action ("the constructing") or result ("the thing constructed"), the string (303) has only the action interpretation (i.e. it is an Abstract Noun with Object).

(303) la construcción de la casa...

In the Nonabstract Noun nominalization, therefore, any Noun Phrase preceded by de and following the nominalized Verb is clearly the Subject of the Sentence from which the nominalized string is derived. For example,

(304) la construcción de los hombres...

means 'the building belonging to the men.' Note the syntactic similarity here between the manner nominalization and the Nonabstract Noun nominalization; i.e. no Object may occur in manner nominalizations either.

For the Nonabstract Noun nominalization, as for the manner nominalization, underlying Objects are deleted even in those cases where the Verb ordinarily requires an Object in the surface structure. For example, although (305) is ungrammatical, the string (306) is grammatical.

(305) *El director sugiere.

(306) la sugestión del director...

4.5. The Subject Noun Phrase

The Subject Noun Phrase of the underlying Sentence appears in the surface structure of both types of Abstract Noun nominalizations preceded by either _por_ or _de_. Consider the following strings.

(307) el amor del dinero por el hombre...

(308) la construcción de la escuela por el hombre...

(309) las andanzas de la muchacha...

(310) *la sugestión por el director...

(311) *la destrucción de la casa del hombre...[5]

These strings illustrate the fact that when the Object occurs, the underlying Subject is represented as an agent in the surface structure and is preceded by _por_. When no

Object occurs in the surface structure, the underlying Subject is preceded by de. Since, as is the case in all sentences in Spanish, a Pro-Noun Subject may be deleted from the embedded Sentence which underlies the Abstract Noun nominalizations, ambiguous strings result. For example, (312) is ambiguous as to whether el hombre is Subject or Object of the underlying Verb destruye, and (313) is ambiguous as to whether Dios is Subject or Object of the underlying Verb ama.

(312) la destrucción del hombre...

(313) el amor de Dios...

In the case of Verbs which undergo nominalization to Nonabstract Nouns, there is a potential three-way ambiguity because the Subject Noun Phrase of the string underlying such nominalizations occurs with a preceding element de in the surface structure of the NN nominalization. Thus, (314) is ambiguous as to an Abstract Noun with el hombre as Subject of the action or as a Nonabstract Noun nominalization with el hombre as possessor of the object resulting from the action. The third potential interpretation, el hombre as direct Object of the action which is represented by a nominalized Abstract Noun, is excluded in this case by the selectional restrictions on the Object of the Verb construye.[6]

(314) la construcción del hombre...

Note that concerning the Subject Noun Phrase, both types of Abstract Nouns and the Nonabstract Noun nominalizations are superficially similar to the manner nominalization, in which the Subject Noun Phrase is always preceded by de.

4.6. Modification

Like the manner nominalization, both the Abstract and the Nonabstract Noun nominalizations may be modified by Relative Clauses and by Adjectives. Modification by Adjectives is illustrated in examples (262), (263), (264), (267), and (269). Nominalizations with Relative Clauses occur in the following sentences, where construcción in (315) should be interpreted as Abstract.

(315) La construcción que es importante es admirable.[7]

(316) La construcción que es alta es un teatro.

Furthermore, the Nonabstract Noun nominalization does not occur with time Adverbials, as indicated by sentence (317), in spite of the grammaticality of (318). Since the deep structure of (318) is, with the exception of the time Adverbial, the same as that which apparently underlies (317), this difference in grammaticality is difficult to explain.

(317) *La construcción ayer fué un teatro.

(318) Construyeron un teatro ayer.

Both AN-TI and AN-TII nominalizations, however, do permit such modification, as shown in (319) and (320) respectively.

(319) La construcción ayer de la escuela fué una sorpresa.

(320) El crecimiento lento del muchacho durante el año pasado le preocupa a su madre.

Note that in regard to modification, AN-TI, AN-TII, and NN are all distinct from the fact nominalization. The fact nominalization does not permit modification by Relative Clauses or by Adjectives. The Nonabstract Noun nominalization differs from the manner nominalization in that the latter but not the former permits modification by time Adverbials.

5. Comment

It has been demonstrated in the above sections that the Phrase-marker which underlies the manner nominalization is inadequate to serve as the deep structure for both types of Abstract Nouns and for the Nonabstract Noun discussed in this chapter. This inadequacy is due primarily to the semantic characteristics of all of these nominalizations, although there are also syntactic differences. Since many of the semantic and syntactic features which have been described here for Spanish nominalizations also occur with the equivalent nominalizations in English, this suggests that the treatment proposed by Lees and by Katz and Postal must be reviewed and revised.

There is a closer semantic relationship between AN-TI and the fact nominalization. Because of a great disparity in the syntactic characteristics of the fact nominalization and AN-TI, as well as AN-TII and NN, however, the deep structure of the fact nominalization, described in Chapter IV, is also inadequate as the structure underlying any of the nominalizations which have been discussed in this chapter.

The complex pattern involved in the similarities and differences, both syntactic and semantic, of the fact nominalization, the manner nominalization, the Abstract Noun nominalizations of the two types described in this chapter, and the Nonabstract Noun nominalization discussed here make it impossible at this time to offer a descriptively adequate account of the latter forms.

Expanding on the work of Lees and of Katz and Postal, we have assumed a possible underlying relationship between fact and manner nominalizations and AN-TI and AN-TII respectively. The results of the research presented in this chapter indicate with increasing strength that such a relationship may not exist. In fact, the identical syntactic characteristics of AN-TI and AN-TII seem to indicate that our initial assuption, on the basis of semantic characteristics, of two types of such Abstract Nouns was incorrect. The only difference between these may be the presence of an Adverbial of manner in embedded sentences underlying AN-TII and the absence of such an Adverbial for AN-TI. We are left with just one type of Abstract Noun formed by a variable suffix -ción/-miento, etc. and there is no concrete evidence that this nominalization is closely related to either the manner or the fact nominalizations treated earlier.

In summary, the nominalizations that have been discussed in this work are illustrated by the following strings.

FACT NOMINALIZATION

(321) el construir el hombre la casa...

MANNER NOMINALIZATION

(322) el construir del hombre...

ABSTRACT NOUN NOMINALIZATIONS

TYPE I

(323) la construcción de la casa por el hombre...

TYPE II

(324) la construcción rápida de la casa por el hombre...

NONABSTRACT NOUN NOMINALIZATION

(325) La construcción del hombre es alta.

The failure here to reach a solution to the problems of the Abstract Noun nominalizations may be due to one, several, or all of the factors discussed in the 'Preliminary Observations' of this study. Furthermore, it may be the case that the embeddings involved in the deep structure of these nominalizations are more extensive than those that have thus far been treated in the literature for any language and that further study of the restrictions on embeddings is necessary before a satisfactory solution can be reached for Abstract and Nonabstract Noun nominalizations in any language.

NOTES TO 'CHAPTER VI: THE ABSTRACT NOUN NOMINALIZATION'

1 Note that this is not the same as marking the Verb with the syntactic feature [- _____S] since not all strings derived from an embedded Sentence are [+ Abstract] Nouns. For example, Predicate Complements such as that in quiero andar are derived from embedded sentences and are grammatical following the Verb quiere, yet *Quiero la construcción de la casa, with a [+ Abstract] Noun is ungrammatical and must not be generated.

2 Since Verb formatives must be marked as to which phonological shape they will take when undergoing Abstract nominalization, I assume at the present time that the syntactic feature [Abstract] is also marked in the lexical entry for such formatives.

3 The difference in surface structure of (272) and (273) is due to restriction in manner nominalizations on the occurrence of an Object Noun. If an Object occurs, a paraphrase must be used in place of the manner nominalization with -r.

4 It should be noted that the examples of AN-TI occurring without a Determiner involve underlying Verbs which are intransitive.

5 In one interpretation, this is grammatical, i.e. 'the destruction of the man's house.'

6 The string *la proyección del hombre* is apparently at least three ways ambiguous, but it is not clear if this is due solely to syntactic ambiguity or if one of the interpretations involves semantic ambiguity. That is, we can have *la proyección del hombre por el cañón* 'the projection of the man by the cannon' in which *el hombre* is Object of the underlying Verb *proyecta*. From *el hombre proyecta algo* ('the man projects something'), with Pro-Noun Object deletion, we can derive *la proyección del hombre*, in which *el hombre* is Subject of the underlying Verb. On the other hand, the string *la proyección del hombre* with an interpretation of *el hombre* as possessor of an object resulting from the action of *proyecta* (i.e. "a projection" or "a plan") may involve a different set of semantic features from those associated with the Verb *proyecta*.

7 The status of more complex Abstract Noun nominalizations with Relative Clauses is not clear. That is, la construcción de escuelas por los voluntarios que es importante is not acceptable to native speakers. Whether this string is ungrammatical and should not be generated by a grammar which attempts to account for speakers' competence or whether it is grammatical but unacceptable and thus should be handled by a theory of performance has not been determined. Note, however, that if the former is the case, then it will be necessary to block generation of this string by stating in the grammar that the normally optional rule which converts Relative Clauses to Adjectives is obligatory just in case we have a nominalization of a certain length, i.e. one including both Subject and Object, or perhaps only one of these.

Appendix I:

Grammatical Spanish Strings with English Glosses

Chapter I

(1) los soldados atacantes...
'the attacking soldiers...'

(2) Los atacantes huyen.
'The attackers flee.'

(3) Los pobres siempre tienen hambre.
'The poor are always hungry.'

Chapter II

(4) El hombre escribe la carta.
'The man writes the letter.'

(5) el escribir el hombre la carta...
'the man's writing the letter...'

(8) Los voluntarios construyen la casa.
'The volunteers construct the house.'

(9) la construcción de la casa por los voluntarios...
'the construction of the house by the volunteers...'

(12) El pájaro canta.
'The bird sings.'

(13) el cantar del pájaro...
'the singing of the bird...'

(14) La niña come una manzana.
'The girl eats an apple.'

(16) la destrucción del hombre...
'the destruction of the man...'

(17) El hombre destruye X.
'The man destroys X.'

(18) Y destruye al hombre.
'Y destroys the man.'

(19) el tocar la mujer...
'the woman's playing...'

(20) La mujer toca.
'The woman plays.'

(23) el violín viejo...
'the old violin...'

(24) la casa de la mujer...
'the woman's house...'

(25) Toca la mujer.
'The woman plays.'

(26) Juan gasta el dinero.
'John spends (the) money.'

(27) el gastar Juan el dinero...
'John's spending (the) money...'

Chapter III

(33) ¡No vaya a casa!
'Don't go home!'

(35) ¿No fué él a casa?
'Didn't he go home?'

(37) el gastar el dinero...
'spending the money...'

(38) el no gastar el dinero...
'not spending the money...'

(53) El hombre escribe la carta.
'The man writes the letter.'

(54) Escribe el hombre la carta.
'The man writes the letter.'

(58) el escribir el hombre la carta...
'the man's writing the letter...'

(63) el hombre que es inteligente...
'the man who is intelligent...'

(64) el hombre inteligente...
'the intelligent man...'

(65) el inteligente hombre...
'the intelligent man...'

Chapter IV

(68) Escribir es agradable.
'Writing / to write is pleasant.'

(69) El escribir es agradable.

'Writing / to write is pleasant.'

(70) El escribir el muchacho me sorprende.

'The boy's writing surprises me.'

(71) El escribir el muchacho la carta me sorprende.

'The boy's writing the letter surprises me.'

(72) El no escribir el muchacho la carta me sorprende.

'The boy's not writing the letter surprises me.'

(73) Escribir una carta es agradable.

'Writing / to write a letter is pleasant.'

(74) El escribir una carta es agradable.

'Writing / to write a letter is pleasant.'

(75) El haber estado escribiendo el muchacho la carta me sorprende.

'The boy's having been writing the letter surprises me.'

(76) El escribir el muchacho la carta bien me sorprende.

'The boy's writing the letter well surprises me.'

(77) Que el muchacho escriba me sorprende.

'The boy's writing / that the boy writes surprises me.'

(78) El que el muchacho escriba me sorprende.

'The boy's writing / that the boy writes surprises me.'

(79) El hecho que el muchacho escriba me sorprende.
'The fact that the boy writes surprises me.'

(80) El hecho de escribir el muchacho me sorprende.
'That fact of the boy's writing surprises me.'

(81) El escribir el muchacho es dudoso.
'The boy's writing is doubtful.'

(82) Que el muchacho escriba es dudoso.
'The boy's writing / that the boy writes is doubtful.'

(83) El que el muchacho escriba es dudoso.
'The boy's writing / that the boy writes is doubtful.'

(86) Que escriba el muchacho me sorprende.
'The boy's writing / that the boy writes surprises me.'

(87) El que escriba el muchacho me sorprende.
'The boy's writing / that the boy writes surprises me.'

(109) El escribir una carta bien es cosa difícil.
'Writing / to write a letter well is a difficult thing.'

(115) El tocar la mujer perfecto me encanta.
'The woman's playing perfectly charms me.'

(117) Escribe bien una carta.
'He writes a letter well.'

(118) Toca la mujer perfecto.
'The woman plays perfectly.'

(119) Toca la mujer perfectamente.
'The woman plays perfectly.'

(120) Que el muchacho escriba bien me sorprende.
'The boy's writing / that the boy writes well surprises me.'

(123) Viene mañana.
'(Someone) is coming tomorrow.'

(124) el hombre...
'the man...'

(125) Juan...
'John...'

(126) mi madre...
'my mother...'

(127) el profesor de la Universidad de México...
'the professor from the University of Mexico...'

(135) El hombre considera la propuesta.
'The man considers the offer.'

(137) El muchacho escribe la carta.
'The boy writes the letter.'

(138) El muchacho escribe.
'The boy writes.'

(139) El considerar el hombre la propuesta me preocupa.
'The man's considering the offer worries me.'

(141) Que el muchacho haya escrito me sorprende.

'The boy's having written / that the boy has written surprises me.'

(142) El que el muchacho haya escrito me sorprende.

'The boy's having written / that the boy has written surprises me.'

(146) La mujer toca la guitarra ahora.

'The woman plays the guitar now.'

(147) La mujer tocó la guitarra ayer.

'The woman played the guitar yesterday.'

(150) el tocar la mujer la guitarra ahora...

'the woman's playing the guitar now...'

(151) el tocar la mujer la guitarra ayer...

'the woman's playing the guitar yesterday...'

(153) Su deseo que Juan gaste el dinero es malo.

'Your wish that John spend the money is evil.'

(154) él lo desea...

'he desires it...'

(156) Quiero comer.

'I want to eat.'

(157) Quiero que la niña coma.

'I want the girl to eat.'

(158) el deseo que Juan venga...

'the wish that John comes...'

(159) el deseo que Juan te comunicó...
'the wish that John communicated to you...'

Chapter V

(169) El tocar es agradable.
'The manner of playing is pleasant.'

(170) El tocar de la mujer es agradable.
'The manner in which the woman plays is pleasant.'

(171) Este tocar de la mujer es agradable.
'This manner in which the woman plays is pleasant / this playing of the woman's is pleasant.'

(172) Su tocar es agradable.
'Her (manner of) playing is pleasant.'

(173) Los tocares de la mujer son agradables.
'The playings of the woman / the ways in which the woman plays are pleasant.'

(174) El tocar perfecto de la mujer es agradable.
'The woman's perfect playing is pleasant.'

(175) El perfecto tocar de la mujer es agradable.
'The woman's perfect playing is pleasant.'

(176) El modo en que la mujer toca es agradable.
'The way in which the woman plays is pleasant.'

(177) El modo en que toca la mujer es agradable.
'The way in which the woman plays is pleasant.'

(179) Tocar es agradable.
'To play / playing is pleasant.'

(180) Este modo en que la mujer toca es agradable.
'This way in which the woman plays is pleasant.'

(181) Los modos en que la mujer toca son agradables.
'The ways in which the woman plays are pleasant.'

(184) Su modo de tocar es agradable.
'Her manner of playing is pleasant.'

(193) el modo en que la mujer ha estado tocando...
'the way in which the woman has been playing...'

(202) El tocar la mujer es agradable.
'That the woman plays / the woman's playing is pleasant.'

(203) El modo en que toca es agradable.
'The way in which she plays is pleasant.'

(204) La mujer toca el violín.
'The woman plays the violin.'

(207) el gastar de Juan...
'the way John spends / John's spending...'

(208) el tocar del violín...
'playing the violin...'

(209) El violín toca.
'The violin plays.'

(210) Alguien toca el violín.
'Someone plays the violin.'

(211) El modo en que la mujer toca el violín es agradable.
'The way in which the woman plays the violin is pleasant.'

(213) el tocar bueno de la mujer...
'the woman's good playing... / the good way in which the woman plays...'

(219) La mujer toca en un modo perfecto.
'The woman plays in a perfect way.'

(220) el tocar perfecto de la mujer...
'the woman's perfect playing...'

(223) el modo en que la mujer toca...
'the way in which the woman plays...'

(224) el modo en que la mujer tocó...
'the way in which the woman played...'

(225) el tocar de la mujer...
'the way in which the woman plays... / the woman's playing...'

(227) ¿Como cocinó usted el pollo?
'How did you cook the chicken?'

(229) ¿En que modo cocinó usted el pollo?
'In what way did you cook the chicken?'

(230) la casa en que vivo...
'the house in which I live...'

(236) el violín de la mujer...
'the woman's violin...'

(237) el violín que la mujer tiene...
'the violin which the woman has...'

(241) que el muchacho escriba...
'that the boy writes...'

(242) el escribir el muchacho...
'the boy's writing...'

(247) el modo de tocar de la mujer...
'the way the woman plays... / the manner of the woman's playing...'

Chapter VI

(251) Los muchachos pintan el edificio.
'The boys paint the building.'

(253) La construcción de escuelas por los voluntarios es necesaria.
'The construction of schools by the volunteers is necessary.'

(254) Las construcciones son muy altas.
'The constructions / buildings are very tall.'

(256) La construcción de escuelas es admirable.
'The construction of schools is admirable.'

(257) La construcción de escuelas por el ejército es dudosa.
'The construction of schools by the army is doubtful.'

(258) La destrucción de la casa es necesaria.
'The destruction of the house is necessary.'

(259) El crecimiento de su hijo me sorprende.
'The growth of your son surprises me.'

(260) La revolución es el fin de los comunistas.
'Revolution is the goal of the communists.'

(261) La sugestión del director me sorprende.
'The director's suggestion / the director's suggesting something surprises me.'

(262) La construcción rápida de esta escuela le gustó a la gente.
'The rapid construction of this school pleased the people.'

(263) Se describe en el diario la destrucción excesiva en ese pueblo.
'The excessive destruction in that town is described in the newspaper.'

(264) El crecimiento lento del muchacho le preocupa a su madre.
'The boy's slow growth worries his mother.'

(265) La clasificación de animales por los científicos es muy eficiente.
'The classification of animals by scientists is very efficient.'

(266) Esta sugestión les gustó a los estudiantes.
'This suggestion pleased the students.'

(267) El profesor presentó una buena sugestión a la comisión.
'The professor presented a good suggestion to the commission.'

(268) Las indiscreciones de la mujer causaron un divorcio.
'The woman's indiscretions caused a divorce.'

(269) Las andanzas diarias de la señora Gómez incomodan a su esposo.
'Mrs. Gomez's daily walks inconvenience her husband.'

(270) La sugestión del director me sorprende.
'The director's suggestion surprises me.'

(271) El construir escuelas es admirable.
'Constructing schools is admirable.'

(272) El construir el ejército escuelas es dudoso.
'The army's constructing schools is doubtful.'

(275) La construcción rápida de esta escuela es dudosa.
'The rapid construction of this school is doubtful.'

(276) en un modo rápido...
'in a rapid manner...'

(277) La sugestión del director me sorprende.
'The director's suggestion / that the director suggested (something) surprises me.'

(278) Su indiscreción causó un divorcio.

'Her indiscretion caused a divorce.'

(282) Su construcción de escuelas es admirable.

'Their construction of schools is admirable.'

(283) Eso causó sorpresa extrema.

'That caused great surprise.'

(284) Lo tomó con resignación.

'He took it with resignation.'

(290) el haber construido los voluntarios escuelas...

'the volunteers having constructed schools...'

(297) Ellos confían en el dictador.

'They confide in the dictator.'

(298) Su confianza en el dictador causó sorpresa.

'Their confidence in the dictator caused surprise.'

(299) el confiar ellos en el dictador...

'their confiding in the dictator...'

(300) Ellos comen una manzana.

'They eat an apple.'

(301) el comer ellos una manzana...

'their eating an apple...'

(302) la construcción...

'the construction...'

(303) la construcción de la casa...

'the construction of the house...'

(304) la construcción de los hombres...
'the men's building...'

(306) la sugestión del director...
'the director's suggestion...'

(307) el amor del dinero por el hombre...
'man's love of money...'

(308) la construcción de la escuela por el hombre...
'the construction of the school by the man...'

(309) las andanzas de la muchacha...
'the girl's walks...'

(312) la destrucción del hombre...
'the destruction of the man...'

(313) el amor de Dios...
'the love of God...'

(314) la construcción del hombre...
'the man's construction...'

(315) La construcción que es importante es admirable.
'Construction / building which is important is admirable.'

(316) La construcción que es alta es un teatro.
'The building which is tall is a theater.'

(318) Construyeron un teatro ayer.
'They constructed a theater yesterday.'

(319 La construcción ayer de la escuela fué una sorpresa.
'The construction yesterday of the school was a surprise.'

(320) El crecimiento lento del muchacho durante el año pasado le preocupa a su madre.
'The boy's slow growth last year worries his mother.'

(321) el construir el hombre la casa...
'the man's constructing the house...'

(322) el construir del hombre...
'the man's constructing...'

(323) la construcción de la casa por el hombre...
'the construction of the house by the man...'

(324) la construcción rápida de la casa por el hombre...
'the rapid construction of the house by the man...'

(325) La construcción del hombre es alta.
'The man's building is tall.'

Appendix II: The Base Component Rules

(28)

i S → # (PRE) (NEG) NP AUX VP #

ii $\text{PRE} \rightarrow \begin{Bmatrix}\text{QUES}\\ \text{IMP}\end{Bmatrix}$

iii AUX → T (M)

iv $\text{T} \rightarrow \begin{Bmatrix}\text{PRES}\\ \text{PAST}\end{Bmatrix}$

v $\text{VP} \rightarrow (\text{ha-} + \text{-do}) \quad (\text{esta-} + \text{-ndo}) \quad \left\{\begin{bmatrix}\text{V} & \left(\begin{Bmatrix}\text{NP}\\ \text{PP}\end{Bmatrix}\right) \left(\begin{Bmatrix}\text{S}\\ \text{PP}\end{Bmatrix}\right) & (\text{MAN})\\ \text{COP} & \begin{Bmatrix}\text{NP}\\ \text{ADJ}\end{Bmatrix} \quad (\text{PP}) & \end{bmatrix}\right\}$

vi PP → PREP NP

vii MAN → PREP PASS

viii NP → (DET) N (S)

ix DET → ART (S)

x $\text{ART} \rightarrow (\text{WH}) \begin{Bmatrix}\text{DEF}\\ \text{INDEF}\end{Bmatrix}$

(44) N → CS

(45) V → CS

(46) N → [+N, ± Animate, ± Common]

(47) [+ Common] → [± Count]

(48) [- Count] → [± Abstract]

(49) $[+\text{ V}] \rightarrow \text{CS}/\alpha\frown\text{AUX}\underline{\quad\quad}(\text{DET}\frown\beta)$

Appendix III: The Transformations

This appendix contains the transformational rules presented in the text. Each rule is followed by the original number used in the text so that the reader may refer back to the discussion which accompanied the rules.

The order of presentation here conforms to the ordering requirements discussed in the text. This is not always the same as the order in which the rules were originally presented.

The status of each rule, obligatory or optional, is also indicated in this appendix.

1. (50) Obligatory

$$\begin{array}{llllll}
\# & X & [\ (\text{DET})\ [\ [\ \alpha\ \text{SING}\ ]\ ]_{N}\ Y\ ]_{NP} & T & Z & \# \\
1 & 2 & 3 & 4 & 5 & 6 \Rightarrow \\
1 & 2 & 3 & 4+\ [\ \alpha\ \text{SING}\ ] & 5 & 6
\end{array}$$

2. (51) Obligatory

$$\begin{array}{lll}
X & [\ \text{DET} & (Y) \\
1 & 2 & (3) \\
1 & 2+\ [\ \beta\ \text{Masc}\ ]\ [\ \alpha\ \text{SING}\ ] & (3)
\end{array}$$

$$\begin{array}{ll}
[\ [\ \beta\ \text{Masc}\ ]\ [\ \alpha\ \text{SING}\ ]\ ]_{N}\ ]_{NP} & Z \\
4 & 5 \Rightarrow \\
4 & 5
\end{array}$$

3. (152) Obligatory

X	N	S	Y
1	2	3	4 ⇒
1	2 + que	3	4

4. (162) Obligatory

X	$[\ [\ +\text{Pro}\ ]\ ]_{N}$	que	S	Y
1	2	3	4	5 ⇒
1	0	3	4	5

5. (60) Obligatory

[ART	S	N	X $]_{NP}$
1	2	3	4 ⇒
1	0	3 + 2	4

6. (232) Obligatory

#	(PRE)	(NEG)	W	(PREP)	$[\text{ WH + X Y }]_{NP}$	Z	#
1	(2)	(3)	4	(5)	6	7	8 ⇒
1	(2)	(3)	(5)+6+4	0	0	7	8

7. (234) Obligatory

[DET	N	(PREP)	$[\text{ WH + X }]_{ART}$	N	Y $]_{NP}$
1	2	3	4	5	6 ⇒
1	2	3	4	0	6

CONDITION: 2 = 5

8. (163) Obligatory if X includes a PP the head Noun of which is modo; otherwise optional

X	[[+ Pro]]$_N$	Y
1	2	3 ⇒
1	Ø	3

9. (238) Optional

W	N	[(PREP)	[WH + X]$_{DET}$	(NP)	Y]$_S$	Z
1	2	3	4	(5)	6	7 ⇒
1	2	de	Ø	(GENITIVE+5)	6	7

10. (243) Obligatory if 2 = de; otherwise optional

[W	$\left\{\begin{matrix}\text{que}\\\text{de}\end{matrix}\right\}$	X	T	Y]$_{NP}$	Z
1	2	3	4	5	6 ⇒
1	2	3	NOM	5	6

11. (244) Obligatory

W	[que	[X	NOM	Y]$_S$]$_{NP}$	Z
1	2	3	4	5	6 ⇒
1	Ø	3	4	5	6

12. (166) Obligatory if 2 = 0 and 3 ≠ 0; otherwise optional

#	[	(que)	[	(NP)	VP	$]_S$	$]_{NP}$	X
1		(2)		(3)	4			5 ⇒
1	el	(2)		(3)	4			5

13. (167) Obligatory if 6 ≠ 0; otherwise optional

U	[	(W)	NP	(AUX)	[	[+ V]	(NOM)	X	$]_V$	Y	$]_S$	Z
1		(2)	3	(4)		5	(6)	7		8		9 ⇒
1		(2)	∅	(4)		5	(6)	7	2	8		9

14. (52) Obligatory

X	Affix	Stem	Y
1	2	3	4 ⇒
1	∅	3 + 2	4

WHERE: Stem = [+ M], [+ V], [+ COP], *ha*-, *esta*-; and Affix = T, -*do*, -*ndo*

15. (248) Optional

X	modo	de	V	Y
1	2	3	4	5 ⇒
1	4	∅	∅	5

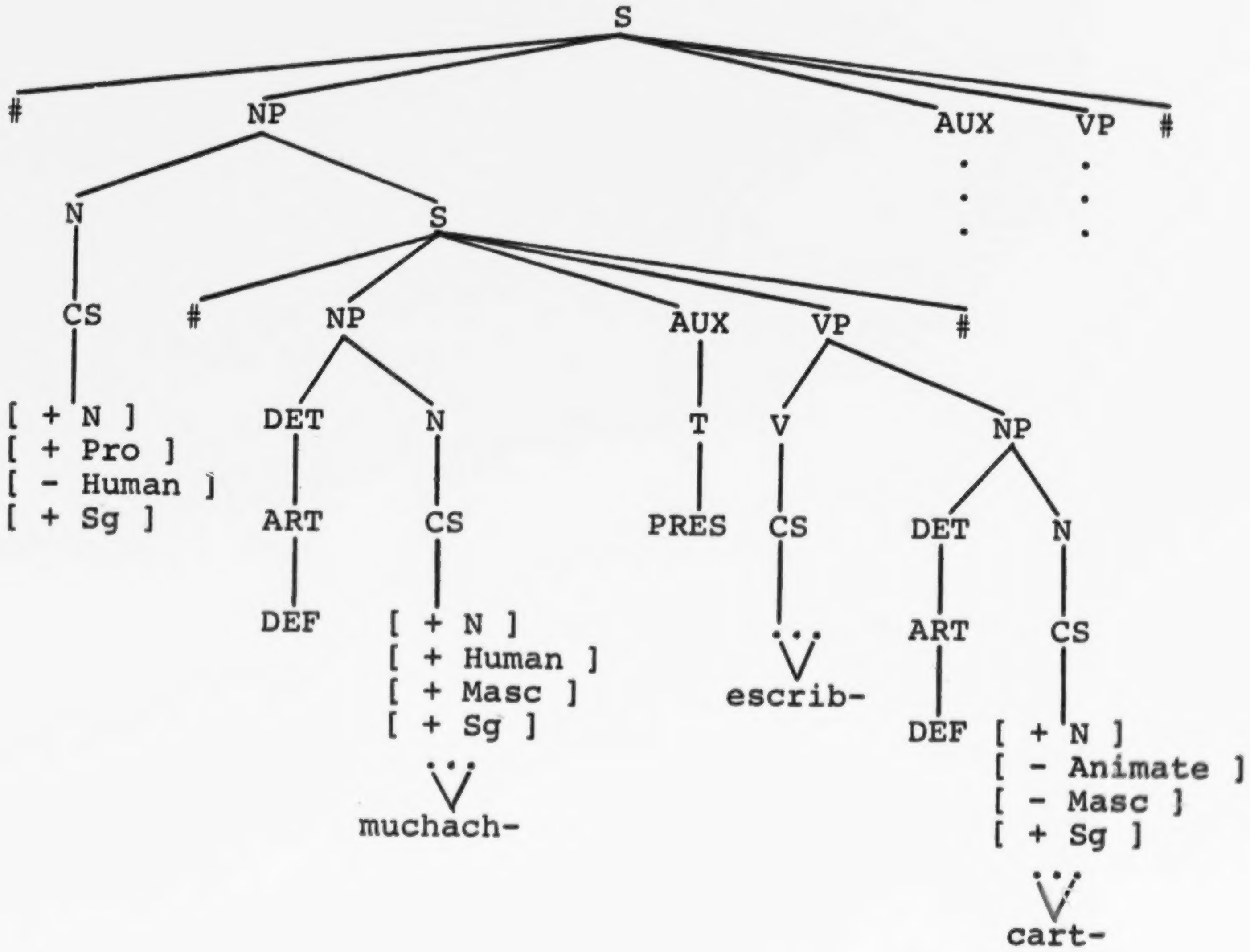
Appendix IV: Some Sample Derivations

Derivation 1

String: El escribir el muchacho la carta...(me sorprende).

'The boy's writing the letter...(surprises me).'

Deep Structure:


S
#
NP
AUX
VP
#
N
S
CS
[+ N]
[+ Pro]
[- Human]
[+ Sg]
#
NP
AUX
VP
#
DET
N
T
V
NP
ART
CS
PRES
CS
DET
N
DEF
[+ N]
[+ Human]
[+ Masc]
[+ Sg]
muchach-
escrib-
ART
CS
DEF
[+ N]
[- Animate]
[- Masc]
[+ Sg]
cart-

First Cycle:

1. T 1

$$\# \; [\; \text{DET} \; \begin{bmatrix} \text{muchach-} \\ [\; + \; \text{Sg} \;] \end{bmatrix}_{\text{N}} \;]_{\text{NP}} \; [\; [\; + \; \text{Sg} \;] \;]_{\text{T}} \; \text{VP} \; \#$$

2. T 2 (applies twice)

$$\# \;\; [\;[\,+\text{ Masc}\,]\;[\,+\text{ Sg}\,]\;]_{\text{DET}} \begin{bmatrix}\text{muchach-}\\ [\,+\text{ Masc}\,]\\ [\,+\text{ Sg}\,]\end{bmatrix}_{\text{N}} \quad \text{AUX} \quad \text{V}$$

$$[\;[\,-\text{ Masc}\,]\;[\,+\text{ Sg}\,]\;]_{\text{DET}} \begin{bmatrix}\text{cart-}\\ [\,-\text{ Masc}\,]\\ [\,+\text{ Sg}\,]\end{bmatrix}_{\text{N}} \quad \#$$

3. T 14

$$\# \quad \text{NP} \quad [\;[\,+\text{ V}\,] \quad \text{T}\;]_{\text{V}} \quad \text{NP} \quad \#$$

Second Cycle:

4. T 1 (applies to add the feature [+ Sg] of the Subject Pro-Noun to the Tense which is assumed under the AUX of the matrix Sentence)

5. T 3

N que S AUX VP

6. T 4

que S AUX VP

7. T 10

$$\# \; [\;\text{que}\;[\;\text{NP}\;[\;[\,+\text{ V}\,]\;\text{NOM}\;]_{\text{V}}\;\text{NP}\;]_{\text{S}}\;]_{\text{NP}} \quad \text{AUX} \quad \text{VP} \quad \#$$

8. T 11

$\# \; [\; [\; NP \quad VP \;]_{S} \;]_{NP} \quad AUX \quad VP \quad \#$

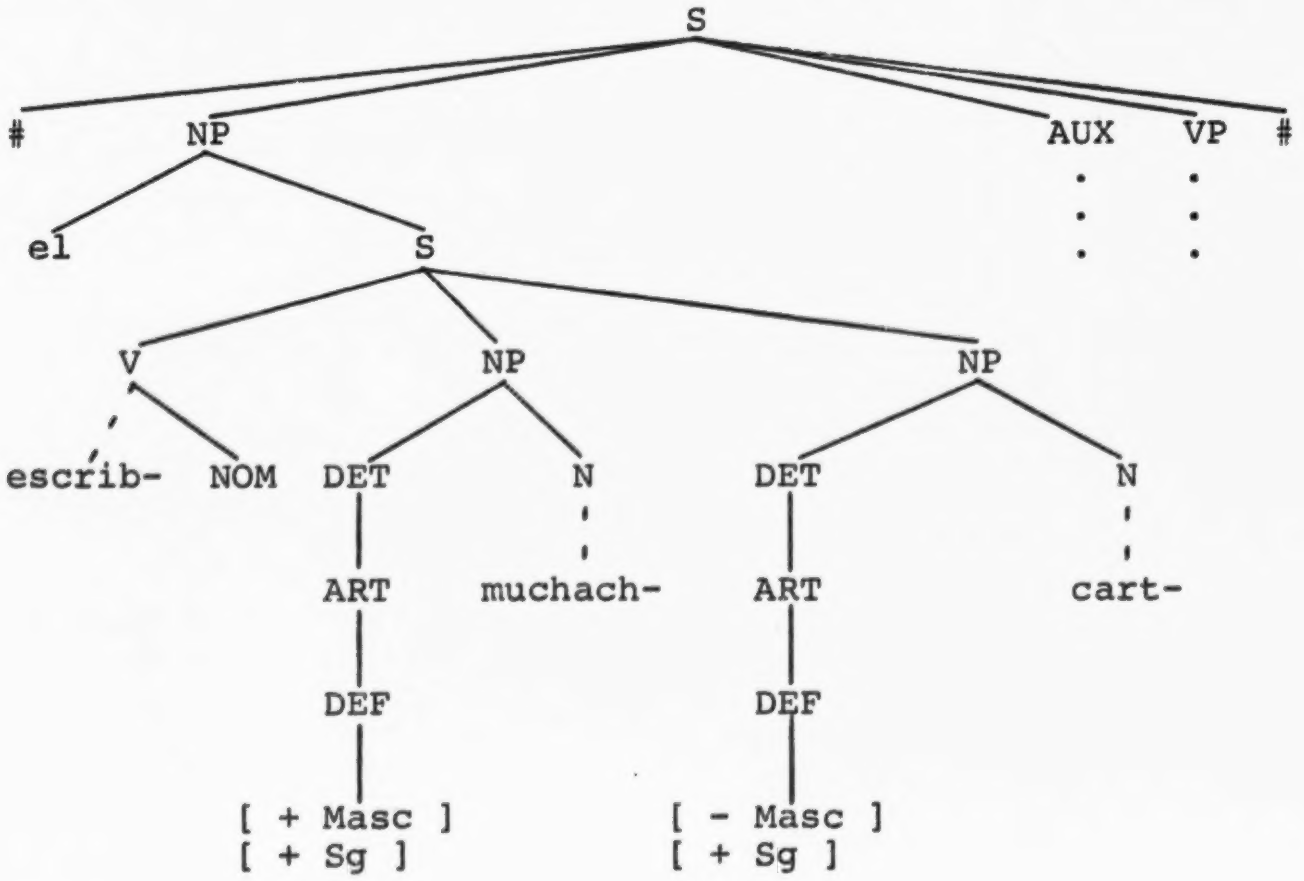
9. T 12

$\# \quad [\; el \quad [\; NP \quad VP \;]_{S} \;]_{NP} \quad AUX \quad VP \quad \#$

10. T 13

$\# \quad el \; [\; [\; [\; + V \;] \quad NOM \;]_{V} \quad NP \quad NP \;]_{S} \quad AUX \quad VP \quad \#$

That is, the string now has the surface structure:

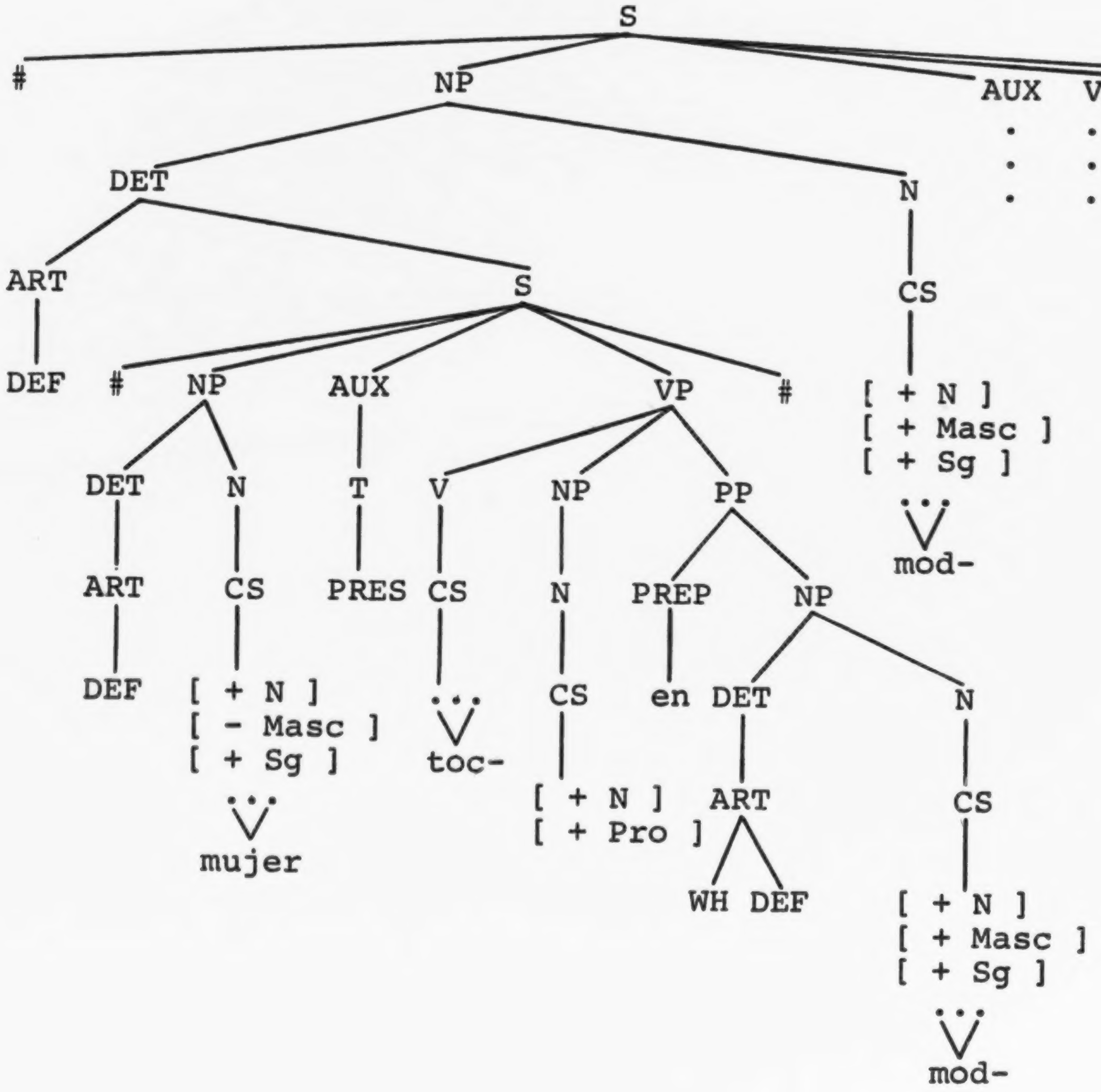

S
#
NP
AUX
VP
#
el
S
V
NP
NP
escríb-
NOM
DET
N
DET
N
ART
muchach-
ART
cart-
DEF
DEF
[+ Masc]
[+ Sg]
[- Masc]
[+ Sg]

Derivation 2

String: El tocar de la mujer...(es agradable).

'The woman's playing...(is pleasant).'

Deep Structure:


S
#
NP
AUX
VP
#
DET
N
ART
S
CS
DEF
#
NP
AUX
VP
#
[+ N]
[+ Masc]
[+ Sg]
mod-
DET
N
T
V
NP
PP
ART
CS
PRES
CS
N
PREP
NP
DEF
[+ N]
[- Masc]
[+ Sg]
toc-
CS
en
DET
N
mujer
[+ N]
[+ Pro]
ART
CS
WH
DEF
[+ N]
[+ Masc]
[+ Sg]
mod-

First Cycle:

1. T 1

$$\# \quad [\ \text{DET} \begin{bmatrix}\text{mujer}\\ [\,+\ \text{Sg}\,]\end{bmatrix}_N \ ]_{NP} \quad [\ [\,+\ \text{Sg}\,]\ ]_T \quad \text{VP} \quad \#$$

2. T 2 (applies twice)

$$\# \quad [\ [\,-\ \text{Masc}\,]\ [\,+\ \text{Sg}\,]\ ]_{DET} \begin{bmatrix}\text{mujer}\\ [\,-\ \text{Masc}\,]\\ [\,+\ \text{Sg}\,]\end{bmatrix}_N \quad \text{AUX} \quad \text{V} \quad \text{NP}$$

$$\text{PREP} \quad [\ [\,+\ \text{Masc}\,]\ [\,+\ \text{Sg}\,]\ ]_{DET} \begin{bmatrix}\text{mod-}\\ [\,+\ \text{Masc}\,]\\ [\,+\ \text{Sg}\,]\end{bmatrix}_N \quad \#$$

3. T 6

$$\# \quad \text{en} \quad [\ \text{WH} + \text{DEF} \quad \text{N}\ ]_{NP} \quad \text{NP} \quad \text{AUX} \quad \text{VP} \quad \#$$

4. T 8

$$\text{AUX} \quad \text{V} \quad \#$$

5. T 14

$$\text{NP} \quad [\ [\,+\ \text{V}\,]\ \ \text{T}\ ]_V \quad \#$$

Second Cycle:

6. T 1 (applies to add the feature [+ Sg] of the Subject Noun *mod-* to the Tense which is assumed under the AUX of the matrix Sentence)

7. T 2

$$\# \quad [\ [\ +\ \text{Masc}\ ]\quad [\ +\ \text{Sg}\ ]\ ]_{\text{DET}} \quad S \begin{bmatrix} \text{mod-} \\ [\ +\ \text{Masc}\ ] \\ [\ +\ \text{Sg}\ ] \end{bmatrix}_{N} \quad \text{AUX VP}\ \#$$

8. T 5

[ART N S]$_{NP}$

9. T 7

[DET N PREP [WH + DEF]$_{ART}$ NP VP]$_{NP}$

10. T 9

# DET N [de GENITIVE + NP VP]$_{S}$ AUX VP #

11. T 10

# [DET N [de GENITIVE + NP [[+ V] NOM]$_{V}$]$_{S}$]$_{NP}$AUX VP #

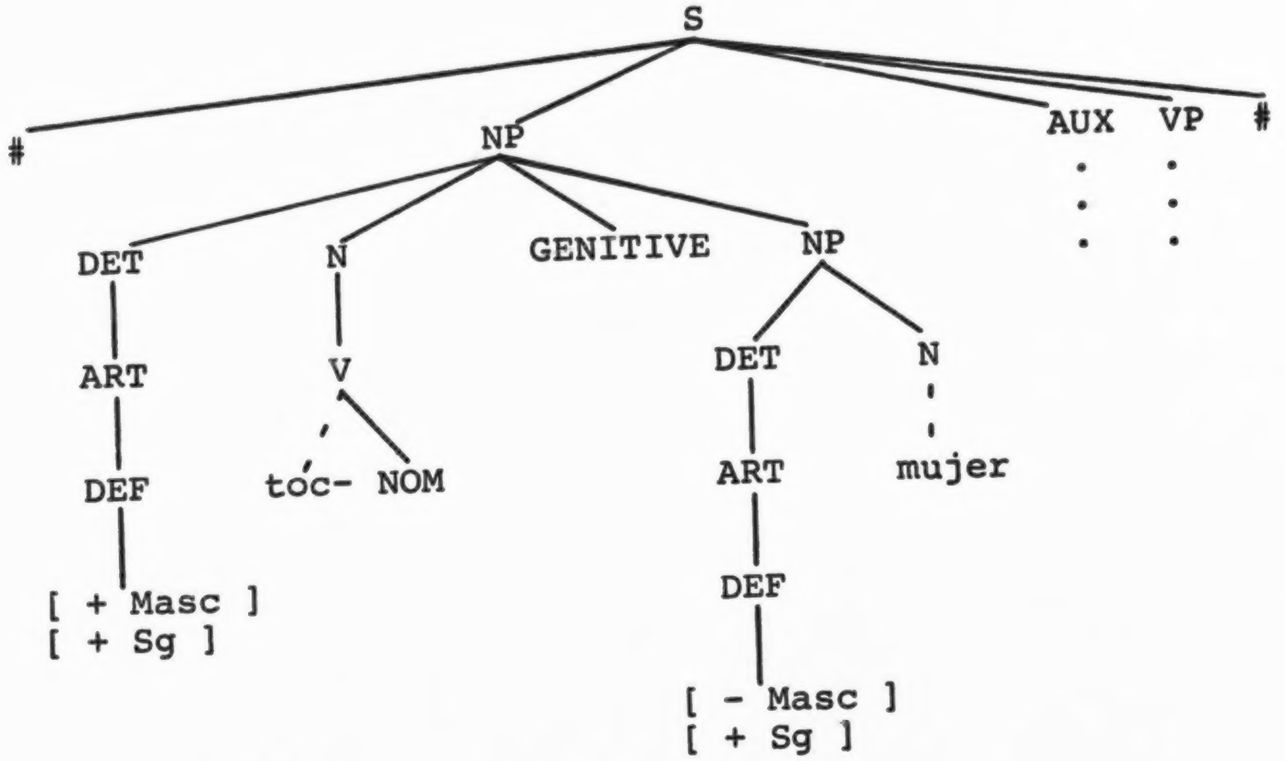
12. T 13

# DET N [de [[+ V] NOM]$_{V}$ GENITIVE + NP]$_{S}$ AUX VP #

13. T 15

# DET [V]$_{N}$ GENITIVE + NP AUX VP #

That is, the string now has the surface structure:


S
#
NP
AUX
VP
#
DET
N
GENITIVE
NP
ART
V
DET
N
DEF
tóc-
NOM
ART
mujer
[+ Masc]
[+ Sg]
DEF
[- Masc]
[+ Sg]

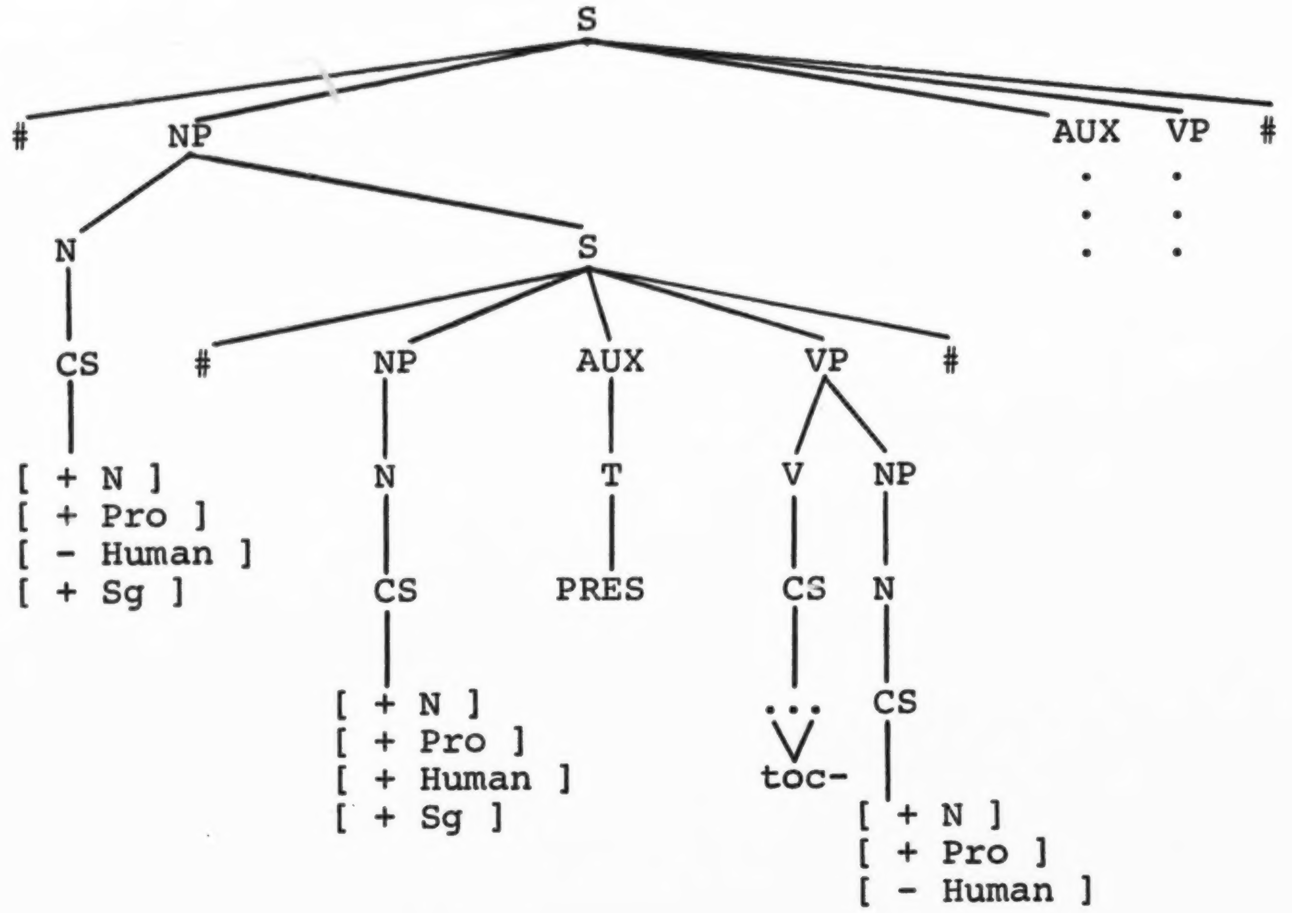
String: El tocar...(me gusta).

'(The) playing...(pleases me).'

This string is ambiguous as to a fact or manner interpretation. The former reading is accounted for by Derivation 3, the latter by Derivation 4.

Derivation 3

Deep Structure:


S
#
NP
AUX
VP
#
N
S
CS
#
NP
AUX
VP
#
[+ N]
[+ Pro]
[- Human]
[+ Sg]
N
T
V
NP
CS
PRES
CS
N
[+ N]
[+ Pro]
[+ Human]
[+ Sg]
...
toc-
CS
[+ N]
[+ Pro]
[- Human]

First Cycle:

1. T 1

$\# \; [\; [\; [\; + \text{Sg} \;] \;]_{N} \;]_{NP} \; [\; [\; + \text{Sg} \;] \;]_{T} \; VP \; \#$

2. T 8 (applies twice)

$\# \; AUX \; V \; \#$

3. T 14

$\# \; [\; [\; + V \;] \; T \;]_{V} \; \#$

Second Cycle:

4. T 1 (applies to add the feature [+ Sg] of the Subject Pro-Noun to the Tense which is assumed under the AUX of the matrix Sentence)

5. T 3

N que S AUX VP

6. T 4

que S AUX VP

7. T 10

[que [[+ V] NOM] $_{V}$] $_{NP}$ AUX VP

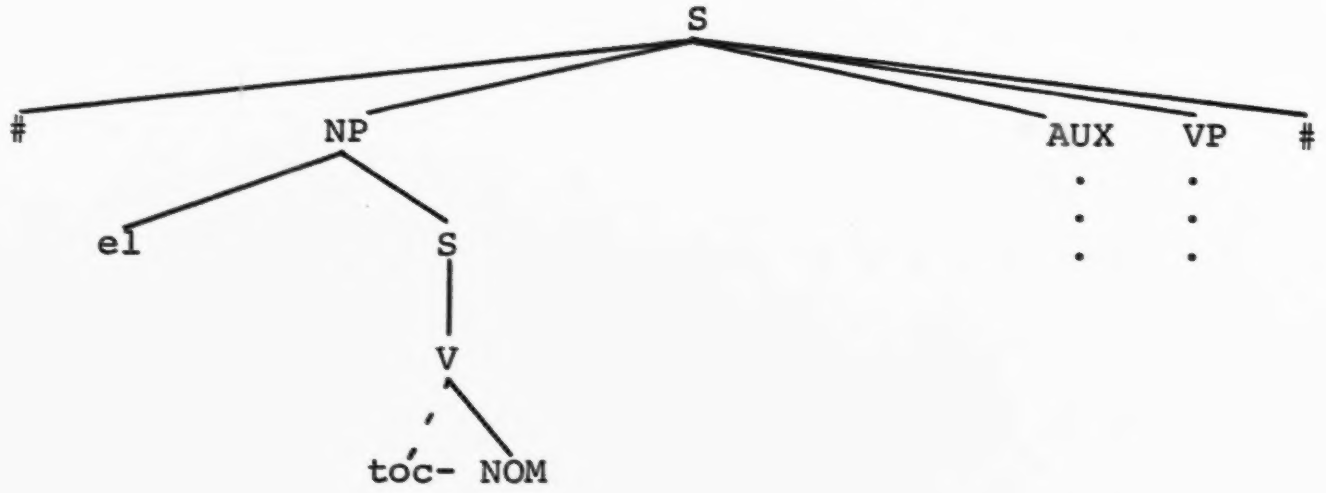
8. T 11

[[V] $_{S}$] $_{NP}$ AUX VP

9. T 12

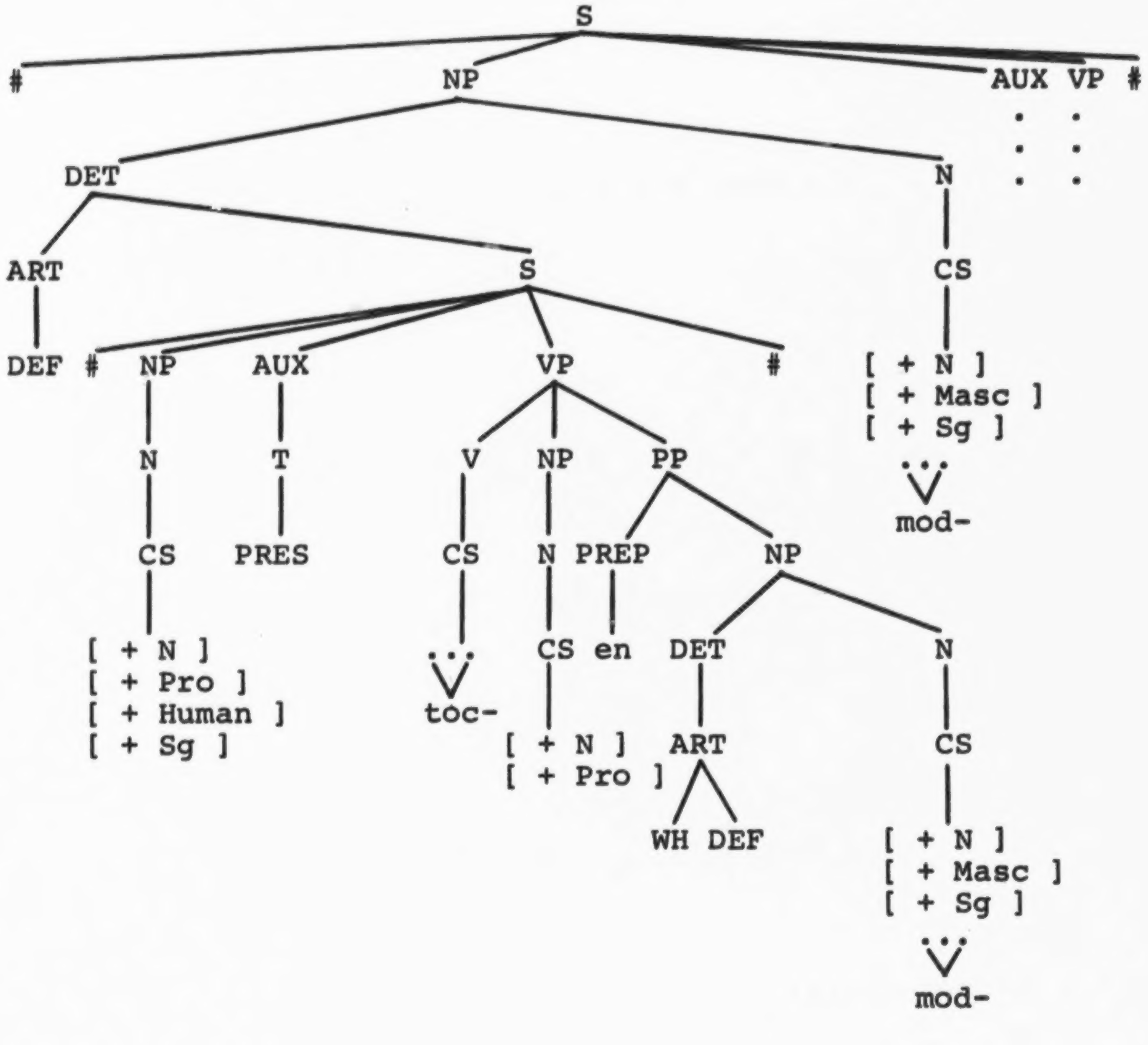
[el [V] $_{S}$] $_{NP}$ AUX VP

That is, the string now has the surface structure:


S
#
NP
AUX
VP
#
el
S
V
tóc-
NOM

Derivation 4

Deep Structure:


S
#
NP
AUX
VP
#
DET
N
ART
S
CS
DEF
#
NP
AUX
VP
#
[+ N]
[+ Masc]
[+ Sg]
mod-
N
T
V
NP
PP
CS
PRES
CS
N
PREP
NP
[+ N]
[+ Pro]
[+ Human]
[+ Sg]
toc-
CS
en
DET
N
[+ N]
[+ Pro]
ART
CS
WH
DEF
[+ N]
[+ Masc]
[+ Sg]
mod-

First Cycle:

1. T 1

$$\# \;\; [\;[\;[\,+\,\text{Sg}\,]\;]_{N}\;]_{NP} \quad [\;[\,+\,\text{Sg}\,]\;]_{T} \quad \text{VP} \quad \#$$

2. T 2

$$\text{PREP} \quad [\;[\,+\,\text{Masc}\,]\;[\,+\,\text{Sg}\,]\;]_{DET} \begin{bmatrix} \text{mod-} \\ [\,+\,\text{Masc}\,] \\ [\,+\,\text{Sg}\,] \end{bmatrix}_{N} \quad \#$$

3. T 6

$$\# \quad \text{en} \quad [\,\text{WH} + \text{DEF} \quad \text{N}\,]_{NP} \quad \text{NP} \quad \text{AUX} \quad \text{VP} \quad \#$$

4. T 8 (applies twice)

PP AUX V #

5. T 14

$$\text{PP} \quad [\;[\,+\,\text{V}\,] \quad \text{T}\;]_{V} \quad \#$$

Second Cycle:

6. T 1 (applies to add the feature [+ Sg] of the Subject Noun *mod*- to the Tense which is assumed under the AUX of the matrix Sentence)

7. T 2

$$\# \quad [\,[\,+\text{Masc}\,]\;[\,+\text{Sg}\,]\,]_{\text{DET}} \quad \text{S}\begin{bmatrix} \text{mod-} \\ [\,+\text{Masc}\,] \\ [\,+\text{Sg}\,] \end{bmatrix}_{\text{N}} \quad \text{AUX} \quad \text{VP} \quad \#$$

8. T 5

$$[\;\text{ART} \quad \text{N} \quad \text{S}\;]_{\text{NP}}$$

9. T 7

$$[\;\text{DET} \quad \text{N} \quad \text{PREP} \quad [\;\text{WH} + \text{DEF}\;]_{\text{ART}} \quad \text{V}\;]_{\text{NP}}$$

10. T 9

$$\# \quad \text{DET} \quad \text{N} \quad [\;\text{de} \quad \text{V}\;]_{\text{S}} \quad \text{AUX} \quad \text{VP} \quad \#$$

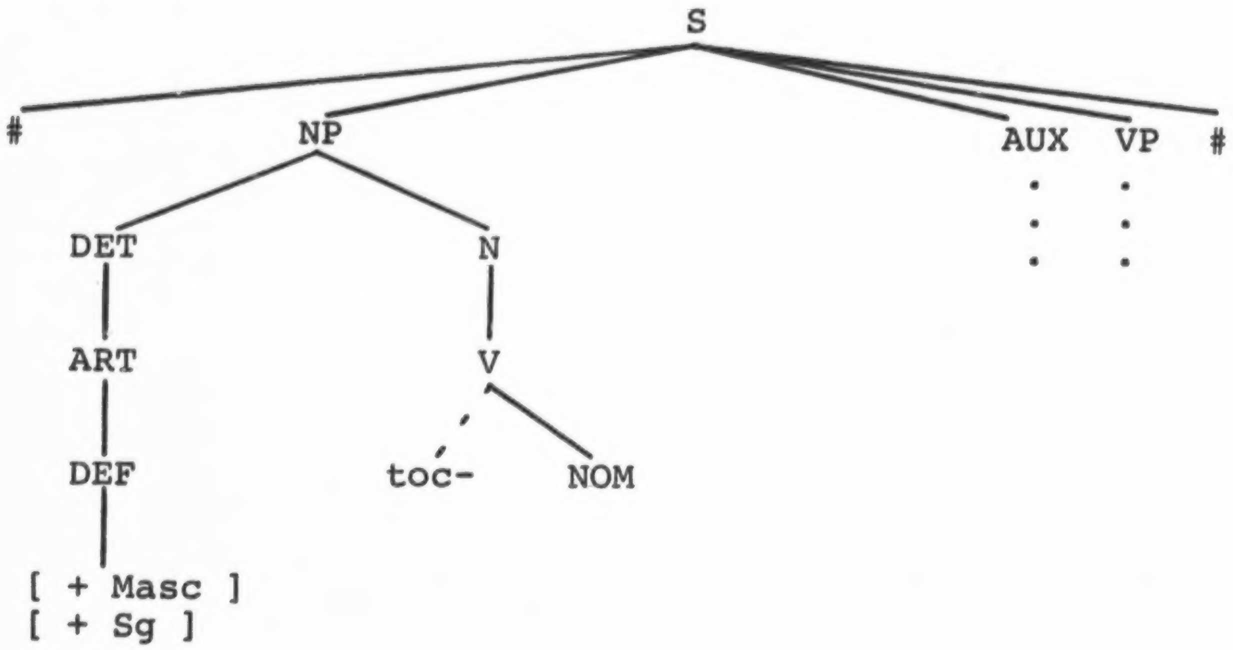
11. T 10

$$\# \; [\;\text{DET} \quad \text{N de} \; [\;[\;+\text{V}\;]\;\text{NOM}\;]_{\text{V}}\;]_{\text{NP}} \quad \text{AUX} \quad \text{VP} \quad \#$$

12. T 15

$$\# \quad \text{DET} \quad [\;\text{V}\;]_{\text{N}} \quad \text{AUX} \quad \text{VP} \quad \#$$

That is, the string now has the surface structure:


S
#
NP
AUX
VP
#
DET
N
ART
V
DEF
toc-
NOM
[+ Masc]
[+ Sg]

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